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THE TRADERS' BANK PRIZE THESIS

I

ON

A detailed plan for the development of Indian Joint Stock Banking with a special reference to the assistance Banks can render in the growth and progress of Indian Industry

BY

BRIJ NARAIN

1945

LAHORE

UTTAR CHAND KAPUR & SONS

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PREFATORY NOTE

The present War has been a period of storm, stress and rapid change. Inflation was a natural sequel. Deposits mounted: Banks in India found themselves with a plethora of funds. 'Expansion' best described their mood and the tempo of their activity. Several new Banks were born. The new responsibilities of the Banks in the post-war era evoked forecasts, both amateur and professional. The phenomena required more than a mere analysis. A comprehensive study of all the aspects of modern banking became imperative.

Departing from the tradition of sister institutions in India and taking a broader view of their functions, the Management of The Traders' Bank Ltd., Lahore, decided to stimulate research on problems vital to the welfare of Banks in India. In consequence on 23rd August, 1943, the eve of the Tenth Anniversary of the Bank, they announced a prize-thesis, with two awards worth Rs. 4,000/- and Rs. 1,000/- for the first two best attempts on "A detailed plan for the development of Indian Joint--Stock Banking with a special reference to the assistance Banks can render in the growth and progress of Indian Industry." It was anticipated this would attract the best talents to the competition. The forecast came true; several economists and bankers of repute participated.

In releasing Professor Brij Narain's Thesis for publication, we are making publicly available the labour of the first winner. We hope the reader will find its study both refreshing and repaying.

The Management of the Traders' Bank Ltd., Lahore, owe a debt of gratitude to the Hon'ble Dr. Sir Manohar Lal, M.A., D. Litt., Bar-at-Law, Finance Minister, Punjab Government, and Dr. E.D. Lucas, M.A., Ph. D. (Columbia), D.D. (Wooster). Head of the Economics Department, Forman Christian College, Lahore, for acting as Judges and take this opportunity to acknowledge the same.

The Traders' Bank Ltd.,
Lahore,
October, 1944.

FOREWORD

It was a happy idea of the Directors of the Traders' Bank Ltd., Lahore, to invite essays on our Joint-Stock Banking by the offer of substantial prizes. The response was most gratifying, several good essays were received and the task of the Judges in adjudicating the prizes was not easy.

I have been asked to write a few words of introduction to this essay by Professor Brij Narain who has established for himself a distinguished position among Indian economists by the character of his research and inquiry and by the extent of his writing. In the present essay, Prof. Brij Narain has displayed all his qualities of a scholar and of a writer in abundant measure. He has brought to bear rare analytic faculty on a subject that had not hitherto been adequately viewed in this manner, and he has shown to real advantage his extensive reading on banking and allied subjects. The result is a bold and penetrative treatment where fresh ground has been broken and attention pointedly drawn to new aspects of a familiar subject. I have found the essay stimulating reading; I feel certain that it will be found even by experts to be at once instructive and thought-provoking.

How India's economy depends so largely on our credit institutions is not always fully realised; war with the short views that wars must encourage, has tended to draw away our attention even in the economic field to comparatively less important channels. Our post-war reconstruction in India is being considered on such bewilderingly extensive scale for a poor country like ours that our energy is in danger of being dissipated and our present limited resources are in danger of being misapplied. Other countries are engaged in studying tasks of repairing a damaged economic life, we are apt to imagine that war has enabled us to refashion our whole life, not only economic

but social, political and even moral. At such a time a careful study like the present exhibiting the relationship between credit machinery and industry in India is of the utmost importance.

Industry alone can secure for us greater wealth and thereby ensure improved standards of living. We must shut our ears to other siren voices, for no longer can we be deflected without fear of death from the dictates of sound doctrine and plain experience. Prof. Brij Narain's essay, therefore, is a most welcome contribution to a pressing problem of the day, closely touching India's destiny.

Professor Brij Narain is so energetic and independent a thinker that his views on some individual aspects of his thesis are bound to excite objection, but that does not detract from the high value of the work as a whole.

I hope that we shall have additions to economic thought by further offer of prizes by institutions engaged in particular economic activities. Nothing but good can come out of study and research thus promoted.

MANOHAR LAL

AUTHOR'S PREFACE

This monograph has been divided into three chapters. In the first chapter we study the Indian money market. The main conclusions of this chapter are : (*a*) that credit is not a price determining factor in India, and (*b*) that the Reserve Bank largely serves an ornamental purpose.

Methods of industrial finance in three countries, Germany, Japan and France, are described in chapter II.

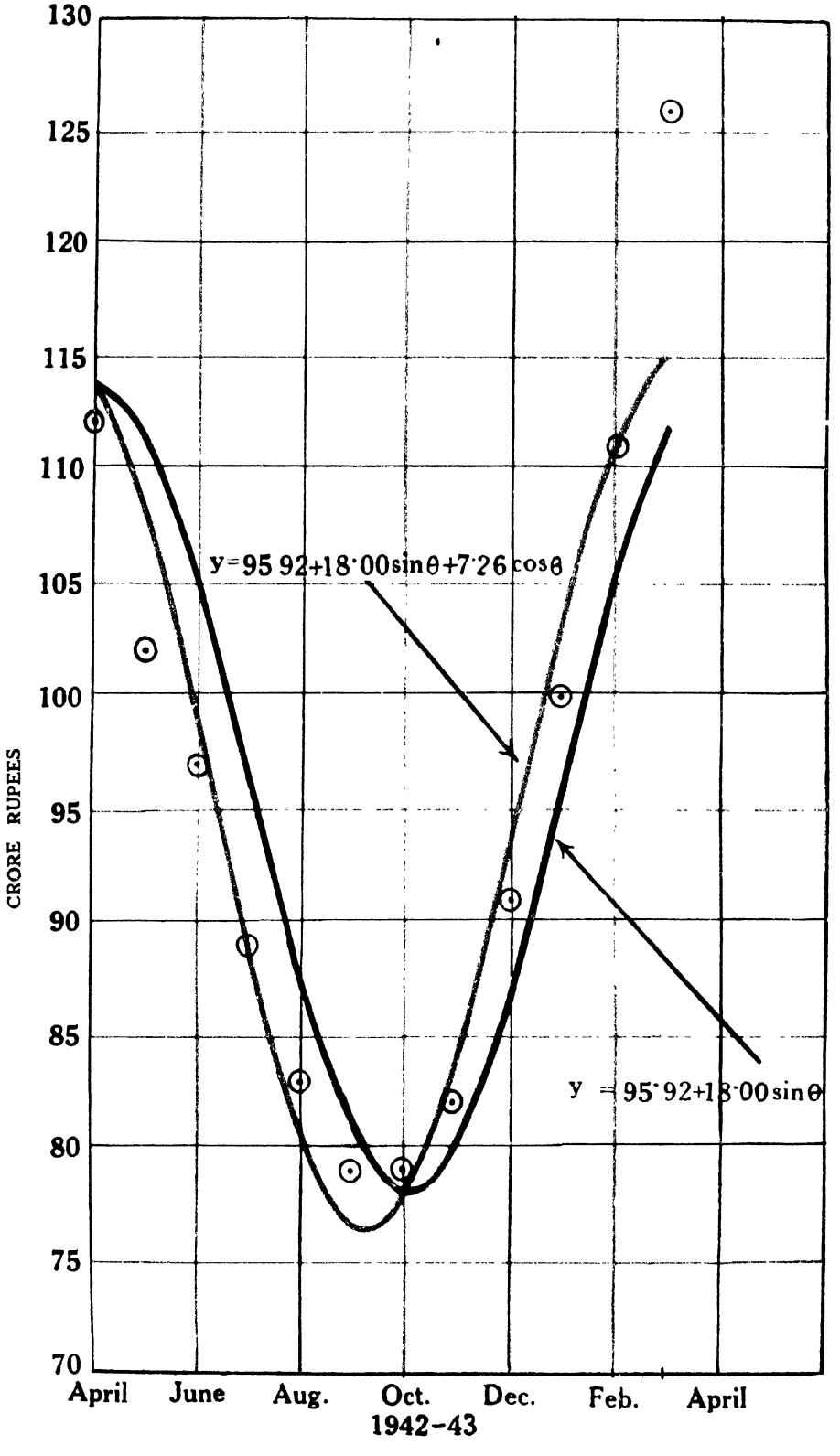
It is shown in the last chapter that : (*a*) orthodox methods of finance will not industrialise India within a reasonable period of time, and (*b*) that India can be rapidly industrialised through bank credit, if the country can be persuaded to adopt unorthodox, but not untried methods of finance.

The meaning and cost of industrialisation are discussed in Appendix B.

Economics is a statistical science—this is stated as a justification (or excuse) for the large use made of statistical devices in the interpretation of statistics, for the study of trends, to illustrate arguments, and to enforce conclusions.

May 5, 1944. BRIJ NARAIN.

Note.—The monograph has been published without any changes, excepting two new Charts, Fig. A (Frontispiece) and Fig. 5 (p. 6).


130
125
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CRORE RUPEES
y=95 92+18·00sinθ+7·26 cosθ
y = 95·92+18·00 sinθ
April
June
Aug.
Oct.
Dec.
Feb.
April
1942-43

CHAPTER I.

THE MONEY MARKET.

In a study of banking in relation to industry one of the most noticeable facts in India is the inadequacy of banking facilities and of deposits.

Classification of Banks

The following statistics[1] are based on an official publication :—

Deposits	Scheduled banks having paid-up capital and reserves of Rs. 5 lakhs and over	Banks having capital and reserves of Rs. 5 lakhs and over other than scheduled banks	Banks having a paid-up capital and reserves between 1 lakh and 5 lakhs
Under Rs. 1 lakh	1	2	19
1 lakh and under 10 lakhs	7	6	59
10 ,, ,, 25 ,,	12	3	33
25 ,, ,, 50 ,,	5	1	10
50 ,, ,, 1 crore	3	3	—
1 crore ,, 10 crores	11	2	—
10 ,, ,, 30 ,,	2	—	—
30 ,, ,, 50 ,,	1	—	—
50 crores and over	1	—	—
Total	43	17	121

(1) *Statistical Tables relating to Banks in India for the years* 1939 *and* 1940.

The number of banks having a paid-up capital and reserves between Rs. 50,000 and 1 lakh was 122.

At the end of 1940 the total number of offices and branches of banks in India and Burma was 2,074. At the end of June, 1943, the offices and branches, etc., of scheduled banks had risen to 1,600. Information about other banks is not available but, very probably, the total number of offices and branches of all banks at the present time is well under 3,000. This may be compared with over 10,000 offices and branches of British Banks. Branch banking has not been developed in the United States, but there were about 15,000 banking corporations in that country before the outbreak of the present war.

A briefer classification of the 181 Banks considered is the following :—

Deposits	Number of banks
Under Rs. 25 lakhs ..	142
25 lakhs and under 1 crore ..	22
1 crore and „ 10 crores ..	13
10 „ „ 30 „ ..	2
30 „ „ 50 „ ..	1
50 crores and over ..	1
Total ..	181

It will be seen that most of our banks are small institutions with total deposits amounting to less than 25 laks. On the 31st of Dec., 1940 the total deposits of the Imperial Bank amounted to 96 crores. This is our largest commercial bank. Next in importance are the Central Bank of India (total deposits 32·5 crores), Bank of India, Bombay (22·3 crores) and Allahabad Bank, Calcutta (11·9 crores).

We have purposely ignored the Exchange Banks.

Per Capita Deposits

The table given below shows deposits per head of the population in U. S. A. dollars in 1939 in India and 26 other countries :—

[TABLE

Country	Currency Unit	Population 1939 (Millions.)	Deposits in national currency. (Millions) 1939.	Deposits per head in national currency.	Value of national currency in U.S.A. cents Dec., 1939.	Deposits per head in U.S.A. dollars.
1. India ...	Rupee ...	382 0	2,775	7·3	30·03	2·2
2. Poland* ...	Zloty ...	35·1	1,393	39·7	18·86	7·5
3. Rumania ...	Leu ...	13·3	13,540	1153·4	0.71	8·2
4. Portugal ...	Escudo ...	7·6	1,815	238·8	3·60	8·6
5. Yugoslavia ...	Dinar ...	15·7	6,452	411·0	2·27	9·3
6. Turkey ...	L. T ...	17·6	261·9	14·9	76·74	11·4
7. Brazil ...	Milreis ...	40·9	12,523	306·2	‡6·06	18·6
8. Greece ...	Drachma...	7·2	18,723	2600	0·72	18·7
9. France ...	Franc ...	42·0	55,626	1324·4	2·23	29·5
10. Bulgaria ...	Lev ...	6·6	16,401	2482·0	1·20	29·8
11. Hungary ...	Pengoe ...	13 5	1,712	126·8	26·32	33·4
12. Germany ...	RM ...	79·7	8501	106·7	40·10	42·8
13. Italy ...	Lira ...	43·9	52,617	1198·6	5·05	60·5
14. Japan ...	Yen ...	72·5	17,794	273·0	23·44	64·0
15. Norway ...	Krone ...	2·9	991	341·7	22·70	77·6
16. Argentine ...	Peso ...	13·1	3,912	298·6	‡29·77	88·9
17. Denmark ...	Krone ...	3·8	2,455	646·1	19·30	124·7
18. New Zealand...	£ ...	1·6	72·6	45·4	314·35	142·7
19. Australia ...	£ ...	7·0	334·9	47·8	313·13	149·7
20. Sweden ...	Krona ...	6·3	4,401	698.4	23·80	166·2
21. Ire ...	£ ...	2·9	162·0	55·9	**393·01	219·7
22. U. K. ...	£ ...	47·7	2,808·4	58·9	393·01	231·5
23. Canada ...	Dollars ...	11·4	3,249	285·0	87·62	249·7
24. Belgium ...	Franc ...	8·4	13,155	1566·1	16·58	259·7
25. S. Africa ...	£ ...	†2·4	166·9	69·5	397·41	276·2
26. U. S. A. ...	Dollars ...	131·4	45,324	344·9	...	344·9
27. Switzerland ...	Franc ...	4·2	11,552	2750·0	22·42	616·6

The composition of our deposits was the following :—

	1939 Million Rs.
1. Scheduled banks	
A, Imperial Bank of India	878
B. Exchange banks	741
C. Other scheduled banks	937
2. Non-scheduled banks	
A. Banks having paid-up capital and reserves over Rs. 1 lakh	163
B. Banks having paid-up capital and reserves between Rs. 50,000 and Rs. 1 lakh	30
C. Banks having paid-up capital and reserves below Rs. 50,000 ..	26
Total	2,775

*Figures for 1938. ‡Official rate. **Assumed rate. Actual rate not known.
†Europeans : 2,188,000
Asiatics : 238,000
Total ... 2,426,000
Over 8 millions of 'Bantu and others' have been ignored.
Source : *Statistical Year-Book of the League of Nations, 1940 41.*
Population, Table 1. Estimation, 31 XII, 1939.
Deposits, Table 106.
Rates in U. S. A. cents, Table 96 (A).

Co-operative Banks, not being commercial banks, have been excluded.

Since December, 1940, the number of scheduled banks has increased to 70 and the total demand and time liabilities of scheduled banks in March, 1944, had risen to 689 crores. The exact amount of our hoarded wealth is not known but probably not more than 300 crores could be mobilised out of hoards[2]. Present deposits are inflated war deposits, but even if normal deposits were taken as 1,000 crores (including mobilised hoards) per capita deposits would rise only to Rs. 26·2, or about 8 U.S.A. dollars.

Seasonal Demand for Money

For illustrations of the seasonal demand for money in our organised money market we have chosen, (1) variations in the percentage of advances and bills discounted by scheduled banks to their demand and time liabilities, (2) advances by scheduled banks, and (3) bills discounted by scheduled banks.

The rise and fall in all the three cases is so regular that it may be represented by mathematical curves.

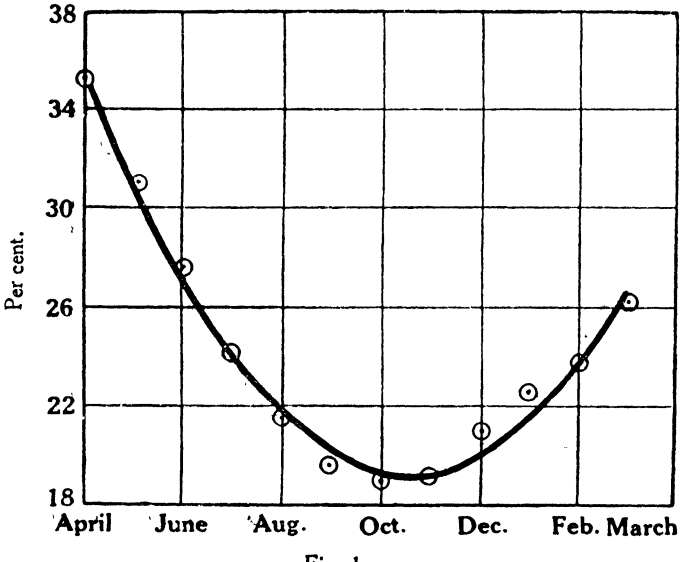

Fig. 1

Showing the percentage of advances and bills discounted by scheduled banks in 1942-43 to their demand and time liabilities. The equation to the fitted curve is $y = 40{\cdot}58 - 5{\cdot}6208\,x + 0{\cdot}3724x^2$.

(2) This is the figure adopted in the Bombay Plan. It is a reasonable estimate.

The sine curve has been fitted to bills discounted between

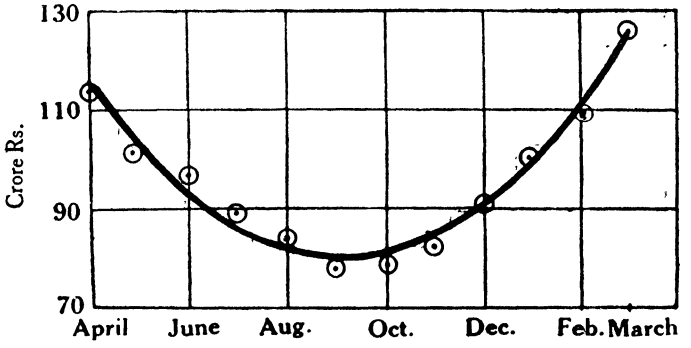

Fig. 2.

Showing the amount of advances by scheduled banks in 1942-43. The equation to the fitted curve is

$$y = 129\cdot6 - 16\cdot02x + 1\cdot3x^2.$$

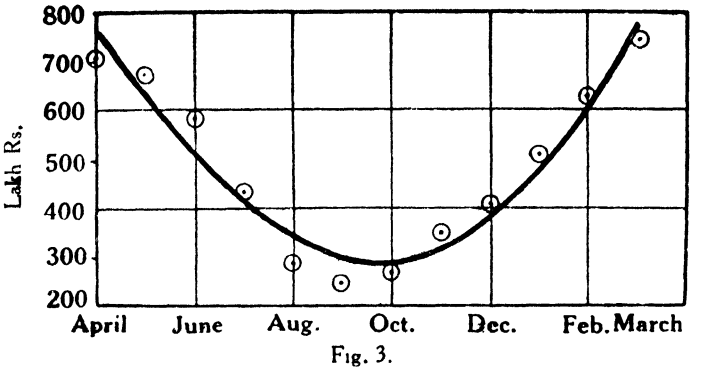

Fig. 3.

Showing the amount of bills discounted by scheduled banks in 1938-39. The equation to the fitted curve is

$$y = 940\cdot17 - 181\cdot94x + 11\cdot28x^2 + \cdot2284x^3.$$

January, 1940, and June, 1941. It is a 12-month cycle. The equation to the fitted curve is :

$$y = 39\cdot9 + 27\cdot2\sin\theta.$$

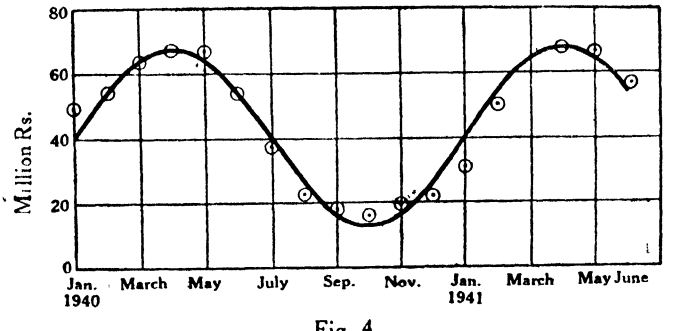

Fig. 4.

Showing the amount of bills discounted by scheduled banks between January, 1940 and June, 1941. The equation to the fitted curve is

$$y = 39\cdot9 + 27\cdot2\sin\theta.$$

Fig. 5 shows the sine curve fitted to bills discounted

between May, 1939, and April, 1941, with the addition of a term bx to the equation to bring down the curve.

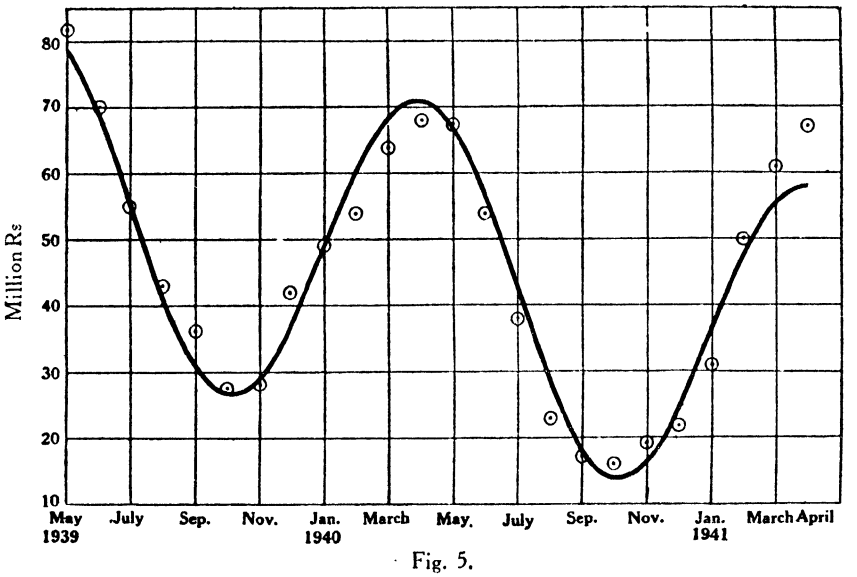

Fig. 5.

Showing the amount of bills discounted by scheduled banks between May, 1939, and April, 1941. The eqaation to the fitted curve is

$$y = 57{\cdot}16 - 1{\cdot}054\ x + 25{\cdot}255 \sin \theta.$$

Fitting the sine curve. Bills discounted by scheduled banks in India and Burma.[3]

	Bills discounted. Million Rs. (observed)	Sinϑ	Bills discounted. Million Rs. (calculated)
Jan., 1940	49	0	40
Feb. ,,	54	·5	54
March ,,	64	·866	64
April ,,	67	1·0	67
May ,,	66	·866	64
June ,,	54	·5	54
July ,,	38	o	40
Augt. ,,	23	− ·5	26
Sept. ,,	17	− ·866	16
Oct. ,,	16	− 1·0	13
Nov. ,,	19	− ·866	16
Dec. ,,	22	− ·5	26
Jan., 1941	31	0	40
Feb. ,,	50	·5	54
March ,,	61	·866	64
April ,,	67	1·0	67
May ,,	65	·866	64
June ,,	56	·5	54

(3) Source: *Monthly Statistical Summary issued by the Reserve Bank.*

Demand and Time Liabilities of Scheduled Banks[4]

As a result of war and inflation, while both demand and time liabilities of scheduled banks have increased, the proportion of demand liabilities to the total has risen. The rise between 1936-37 and 1942-43 was regular, as is shown by the small deviations of the calculated values from observed values :

Year	Demand liabilities, crore Rs.	Time liabilities, crore Rs.	Total, crore Rs.	Proportion of demand liabilities to total, o/o (observed).	The same proportion, calculated, o/o.	*d*.
1936-37 ...	128·6	101·3	229·9	55·9	55·96	+·06
1937-38 ...	132·8	109·0	241·8	54·9	54·67	−·23
1938-39 ...	123·8	103·3	227·1	54·5	54·78	+·28
1939-40 ...	132·6	102·0	234·6	56·5	56·55	+·05
1940-41 ...	155·8	101·1	256·9	60·6	60·26	−·34
1941-42 ...	200·1	103·4	303·5	65·9	66·17	+·27
1942-43 ...	306·3	104·2	410·5	74·6	74·54	−·08

The equation to the fitted curve is :

$$y = 56{\cdot}55 + 2{\cdot}6964x + {\cdot}9667x^2 + {\cdot}044x^3.$$

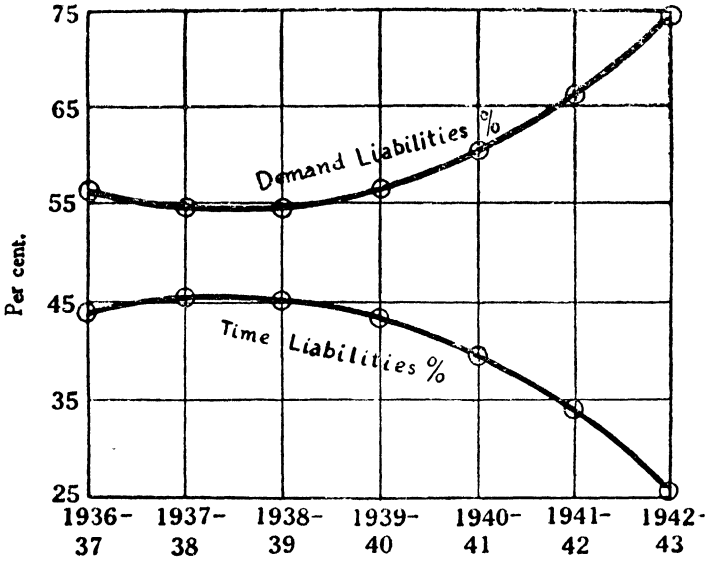

Fig. 6.

Showing the proportion per cent of demand liabilities and time liabilities of scheduled banks to their total demand and time liabilities.

(4) Source : *Currency Report* 1942-43, p. 93. The Burmese figures have been excluded.

Central Banking

Having noted a few useful facts about our banking system, we proceed to consider the mechanism of central banking. Our plan of industrialisation (Chapter III) employs unorthodox methods of finance, but these are central banking methods. The subject is of considerable importance, and, in view of the revolutionary changes which are suggested later, we shall discuss the present situation in some detail.

In his Memorandum on 'Proposals for the establishment of a State Bank in India,' printed as annexe to the Report of the Chamberlain Currency Commission (1914), J. M. Keynes (now Lord Keynes) said that India and the United States were alone not only in having no central bank, but, "in having no re-discount market, no elasticity in the note issue, no bank rate policy, and an 'Independent Treasury System' in place of a Government banker." Keynes regarded the situation in both countries as extremely unsatisfactory. He thought there would be opposition in the United States on the part of independent banks to control by a central institution, but "in India," he said, "the obstacles are far less to the introduction of the recognised preventives for the diseases of the financial body."[5]

The federal reserve system of central banking was established in the United States in 1913. About 43 per cent. of the commercial banks belonged to the federal reserve system in 1938. These banks are known as 'member banks' (corresponding to our scheduled banks). The member banks own the Federal Reserve Banks. The reserve requirements were revised under the Act of 1935, and the actual figures after April, 1938, were as shown below:

	Demand deposits	Time deposits
	%	%
Central reserve city banks ..	22¾	5
Reserve city banks	17½	5
Country banks	12	5

(5) *Reports of Currency Committees.* Reprint by the Government of India, p. 221.

The reserve requirements in India are 5 per cent. of demand and 2 per cent. of time liabilities.

The Federal Reserve Banks enjoy the same power of open market operations as the Reserve Bank of India. As in India, member banks may get bills arising out of *bona fide* commercial and trade transactions re-discounted with the Federal Reserve Banks, and also obtain loans against their promissory notes, properly secured.

As in India, the minimum gold reserve against federal reserve notes (which have replaced National Bank notes) is 40%. As in India, this requirement may be suspended on the payment of a graduated tax to Government under certain conditions.

American Banks and the Crisis of 1929

The federal reserve system was unable to check speculative activity which brought about the stock exchange crash of 1929, and to prevent the subsequent banking panic. 1,352 banks failed in 1930 and 2,294 in 1931 ; bank failures continued in 1932 and 1933.

The banking crisis led to two important changes. First, the control of the Federal Reserve Banks over the member banks was tightened. They now seek to control not merely the quantity of credit which they grant to member banks, but also its quality. A second interesting development is the insurance of bank deposits.

The relations of the Reserve Bank of India with scheduled banks are essentially the same as those of the Federal Reserve Banks with member banks. The Reserve Bank grants temporary accommodation only. It may refuse to re-discount the paper of any particular scheduled bank without assigning a reason. In granting accommodation it takes into consideration not only the nature of the security offered, but also the general character of the investments of the applying bank and the manner in which its business is being conducted. The Reserve Bank also endeavours to insure that the credit granted by it is not misused in any way.

Apart from the insurance of deposits, India possesses a central banking system like that of the United States (the 12 Federal Reserve Banks function as a single central bank). But central banking has not the same significance in India as in other countries. This is a point which will be developed later. Here we may note that if bills are indeed the pivot, 'on which the whole meaning and utility of the notes issue essentially turns[6]', this pivot is as good as missing in India. There was a provision in the old Paper Currency Reserve for the issue of emergency currency against internal bills of exchange. But internal trade is, for the most part, financed by a system of cash credits and, on more than one occasion, before the foundation of the Reserve Bank, the Imperial Bank had to put pressure on its clients to convert cash credits into Hundis in order that it might have self-liquidating Hundis to put up as cover against the loan from the Paper Currency Reserve.

No great progress seems to have been made in this respect since the establishment of the Reserve Bank. On account of the prevalence of easy money conditions, the demands on the Reserve Bank for assistance have not been heavy, but when it has made loans to scheduled banks, generally the loan has been made, not against bills but Government securities[7].

Theory of Central Banking

Central banking has a theory behind it. Whether this theory applies to India under existing conditions is an interesting subject for investigation. The theory is concerned with the relation of the Bank rate to business conditions generally, and particularly to saving and investment.

(6) *Ibid.* p. 206, Keynes is referring to European countries.

(7) Keynes's whole argument for the establishment of a State Bank was based on the supposition that the loans would be made against trade bills. He did not consider it desirable to encourage the holding of a large amount of Government paper for borrowing purposes. A central bank was needed as "there are great difficulties in lending by a Government department against the really desirable security, namely, trade bills. It would take them to a wholly unfamiliar region, and require them to exercise an unaccustomed direction" (see *Reports of Currency Committees*, p. 219). Lending against Government paper was not difficult for Government, and no central bank was required for such lending.

The chief function of a central bank is to keep the internal and external purchasing power of money stable, and it does so through the mechanism of the Bank rate.

The effect of open market operations is to alter the market rate. A restriction of credit thus brought about tends to lower prices, producing conditions favourable to the growth of exports and improvement of the foreign exchanges. We assume that there is an intimate connection between the activities of commercial banks in creating credit and the level of prices.

The terms of credit determine the rhythm of business life. They are not constant, but rise and fall about an 'equilibrium position.' When they are lower than the equilibrium level, prices rise and profits are made by entrepreneurs, or there is a boom. This continues until the terms of credit and their equilibrium level are brought closer together. If the terms of credit are higher than the equilibrium level, prices fall and entrepreneurs suffer losses—or there is a slump.

When investment is equal to saving, the terms of credit are at the equilibrium position. The equilibrium between investment and saving is thus 'the only criterion which would preserve the stability of prices.'[8]

The aim of bankers should be so to regulate the flow of investment, or the creation of new capital, that it is equal to saving. Then prices have no tendency either to rise or to fall.

The rate of interest which exactly balances saving and investment may be called the natural rate of interest. When the market rate of interest is equal to the natural rate, there is no disturbance of the price level.

Richard Reich, Professor, University of Vienna and Presi dent of the Austrian National Bank, has very clearly described the effect on entrepreneurs of a rise in the market rate of interest

(8) *A Treatise on Money* by J. M. Keynes, Vol. II, p. 222.

above and of its fall below the natural rate of interest. "The more the rates of interest approach the expected profit from production, the less is the stimulus to undertake these processes of production. In no case should the rate of interest rise above the 'natural rate' of interest of the country, for in such cases the entrepreneurs must suffer losses by engaging in production." It would also be a mistake to keep the market rate of interest permanently below the natural rate. In fact, Prof. Reich insists, "it is not a high as a too low rate of interest which is a source of danger for economic progress—it leads with a certainty to an economic crisis."[9]

Keynes's explanation of price instability is the same but he has clothed it in more technical language.

There is price stability in a condition of equilibrium, and equilibrium requires that 'Q_1, Q_2, and Q_3 should all be zero[10].' Q_1 is the amount of entrepreneur's profit on the production and sale of consumption goods, Q_2 the corresponding profit on investment or capital goods, and Q the total profit.

Profit is to be understood as excluding the normal remuneration of entrepreneurs. When it is positive it is the sum accruing to them over and above their normal remuneration. When the gains of entrepreneurs are less than their normal remuneration, profit is negative. When profits are zero, the entrepreneurs are earning just their normal remuneration, nothing more and nothing less. The condition of zero profits is realised when saving is equal to investment, or when the market rate of interest is equal to the 'natural rate.'[11]

(9) *Wirtschaftstheorie der Gegenwart* (a joint-work) Vienna, 1932, Vol. II, p. 336.

(10) Keynes, Loc. cit., Vol. I, p. 151

(11) Keynes's argument is essentially the same as that of the talented Swedish economist Knut Wicksell, who wrote much earlier. See Wicksell's *Interest and Prices* p. 102, and for the views of Irving Fisher, his *Rate of Interest*, pp. 284—86.

This theoretical discussion is of value in showing the connection between the rate of interest charged by bankers and productive activity. It also enables us to understand why a credit controlling authority in the shape of a central bank is needed. Banks work for profit, and, in competing with one another, they may, at one time, bring down the rate of interest below the equilibrium level, which would produce a boom and, seized by panic, at another time, refuse to lend on reasonable terms, or at the equilibrium rate, which would cause a depression. The central bank, standing aloof from competition, can see more than individual bankers. It is therefore in the best position to guide and control the entire banking system.

Is the connection between credit circulation on the one hand and prices, production, employment and profits on the other, borne out by facts? We shall study conditions in two countries, United States and India.

United States.

The following table supplies the data[12]:

Year	Demand Liabilities 1,000,000,000 dollars	*Index Numbers*, 1929 = 100					
		Wholesale prices	Prices of industrial shares	Numbers in employment	Industrial Production		
					General	Investment goods	Consumption goods
1930	24.1	90.7	74.2	87.2	83	74	90
1931	21.3	76.6	45.9	73.7	68	51	85
1932	16.4	68.0	24.4	62.5	53	31	75
1933	15.3	69.2	35.0	69.2	63	41	85
1934	17.6	78.6	42.9	80.8	68	49	87
1935	21.6	83.9	48.0	86.1	79	63	97
1936	25.4	84.8	67.3	92.3	94	82	108
1937	26.9	90.6	69.0	99.8	103	92	114
1938	25.8	82.5	52.6	81.9	81	59	102

(12) Source: *Statistical Year Book of the League of Nations for* 1938-39 *and* 1940-41.

We shall take the help of statistical methods in the interpretation of these statistics. The methods we have used are easy of comprehension. They are of particular value as they enable certain conclusions to be stated in definite, quantitative terms.

Demand liabilities represent credit circulation, or deposits subject to cheque. As is well known, deposits are created not only by people leaving their money with bankers, but by the grant of credit by bankers. It follows that when bankers are granting more credit, demand liabilities will increase. Restriction of credit will reduce demand liabilities. What is the relation of expansion and contraction of credit to wholesale prices in the United States?

The problem we are investigating is that of correlation. Let us call demand liabilities x and wholesale prices y. We view prices as a function of demand liabilities. What is the co-efficient of correlation between the two?

A coefficient of +1 indicates perfect direct correlation, one of zero signifies no correlation, and a coefficient of −1 means that the correlation is perfect but inverse.

$$r = \frac{\Sigma(dx.\ dy)}{n.\ \sigma x.\ \sigma y} \text{ where}$$

r = Karl Pearson's coefficient of correlation.
dx = Deviation of x from arithmetic average.
dy = Deviation of y from arithmetic average.
σx = Standard deviation of x
σy = Standard deviation of y
n = Number of terms

σx = 4·07 ; σy = 7·78 ; $\Sigma(dx\ .\ dy)$ = 248.73 ;
n = 9.

Therefore r, the coefficient of correlation is

$$\frac{248{\cdot}73}{9\times4{\cdot}07\times7{\cdot}78} = \frac{248{\cdot}73}{284{\cdot}98} = +{\cdot}87$$

The coefficients of correlation between commercial bank deposits and wholesale prices for four other countries are given below :[13]

United Kingdom, 1930-38	r = +.79
Germany, 1930-36	r = +.89
Netherlands, 1930-37	r = +.92
Japan, 1930-38	r = +.98

In these countries, as in the United States, the credit created by commercial banks is a price determining factor.

Other coefficients of correlation for the United States are given below :[14]

U.S.A.

Co-efficient of correlation between demand liabilities and :	
Prices of industrial shares	r = +.87
Numbers in employment	r = +.84
Industrial Production :	
General	r = +.90
Investment goods	r = +.90
Consumption goods	r = +.85

All coefficients are high, showing an intimate connection between credit on the one hand and industrial profits (as shown by the prices of industrial shares), numbers employed and industrial production on the other. As might have been expected, there is a higher degree of correlation between credit and investment goods than that between credit and consumption goods. The expansion and contraction of credit, affects, first and most seriously, investment or capital goods industries. The expansion and contraction of consumption is slower. For example, the American index for investment goods fell to 31 in 1932 while the index for consumption goods suffered a comparatively smaller fall to 75 in the same year.

(13) See Appendix A.

(14) See Appendix A.

The connection between wholesale prices, demand liabilities and industrial activity in the United States is so close that if we knew the movements of any two of these variables we could make a fairly accurate guess about the movement of the third. An illustration is given below:

United States of America

1	2	3	4	5	6
	Wholesale prices X_1	Demand liabilities in milliard dollars. X_2	Prices of industrial shares X_3	Wholesale prices, calculated	d
1930	90.7	24.1	74.2	90.23	−.47
1931	76.6	21.3	45.9	78.52	+1.92
1932	68.0	16.4	24.4	68.40	+ .40
1933	69.2	15.3	35.0	71.85	−2.65
1934	78.6	17.6	42.9	75.79	− 2.81
1935	83.9	21.6	48.0	79.43	− 4.47
1936	84.8	25.4	67.3	88.24	+3.44
1937	90.6	26.9	69.1	89.53	− 1.07
1938	82.5	25.8	52.6	82.96	+.46
					+8.87
					−8.82

The calculated prices are shown in column 5 and their deviations (+) or (−) in the last column. The deviations are not considerable.

There are three series. We call wholesale prices X_1 (dependent variable in the present case), demand liabilities X_2 and prices of industrial shares X_3. X_1 is jointly determined by X_2 and X_3.[15]

$$X_1 = a + b_{12 \cdot 3} X_2 + b_{13 \cdot 2} X_3$$

$$X_1 = 52{\cdot}19 + {\cdot}4374\ X_2 + {\cdot}3706\ X_3$$

(15) See Apdendix A.

India

It is apparent that central banking has a meaning in the United States. Credit created by the commercial banks determines the whole rhythm of economic life and a credit controlling authority such as the Federal Reserve System is a vital necessity.

What is the relation between credit and prices in India? Let us first consider the present situation :

Wholesale Prices and Demand Liabilities of Scheduled Banks[16]

1	2	3	4	5
	Wholesale prices, July, 1914 =100 (y)	Demand liabilities, crores (x)	Calculated prices y_c	d.
March, 1942 ..	153	222	139.7	−13.3
May „ ..	169	241	157.2	−11.8
July „ ..	182	280	193.0	+11.0
Sept. „ ..	198	309	219.6	+21.6
Nov. ..	227	333	241.7	+14.7
Jan., 1943 ..	250	345	252.7	+2.7
March „ ..	272	372	277.5	+5.5
May „ ..	325	391	294.9	−30.1
July „ ..	332	428	328.9	−3.1
Sept. „ ..	349	553	351.8	+2.8
				+58.3
				−58.3

$r = .9773$

$y = .91817x$

(Origin at the point of averages)[17]

The coefficient of correlation between credit and wholesale prices during the period chosen (before price control became effective) is high—as high as that for Japan (1930—38), and considerably higher than the coefficients for U.S.A, United Kingdom, Germany and Netherlands:

(16) Source: *Monthly Statistical Summary* issued by the Reserve Bank. The Burmese figures have been excluded.

(17) See Appendix A.

This conclusion, however, is misleading. During this period it was not credit that determined prices, but the note circulation which determined both prices and demand liabilities of the scheduled banks—demand liabilities have expanded with the expansion of the note circulation.

Prices and Note circulation[18]

1	2	3	4	5
	Prices, (wholesale) July, 1914 = 100 (y)	Note circaulation, Crores (x)	Calculated prices, y_c	d.
March, 1942	153	375	143·8	−9·2
May ,,	169	425	170·0	+1·0
July ,,	182	450	183·1	+1·1
Sept. ,,	198	488	203·0	+5·0
Nov. ,,	227	535	227·7	+0·7
Jan., 1943	250	588	255.5	+5·5
March, ,,	272	636	280.7	+8·7
May ,,	325	698	313.2	−11·8
July ,,	332	738	334.2	+2·2
Sept. ,,	349	760	345.8	−3·2
				+24·2
				−24·2

$r = +\cdot 99602$

$y = \cdot 5247\ x$

(Origin at the point of averages).[19]

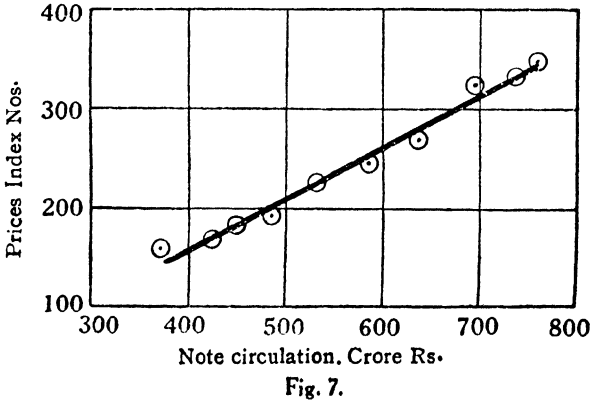

Fig. 7.

Showing correlation between wholesale prices and note circulation between March, 1942, to September, 1943.

(18) Source: Monthly Statistical Summary issued by the Reserve Bank.
(19) See Appendix A.

When the note circulation is used for calculating wholesale prices, we obtain a much better result (shown by the smaller deviations in column 5). The coefficient of correlation is also higher.

It is obvious that the role of note circulation in determining prices was of greater importance than that of demand liabilities of scheduled banks.

The period chosen was not normal, and it is too short a period for such a study. As in the case of the United States, we may study the relation between deposits and other phenomena in the pre-war period, 1930-38.

For India figures of demand liabilities are not available for earlier years. We therefore take total deposits with the commercial banks, including the Imperial Bank, and deposits in India of the Exchange banks. Demand deposits are a truer measure of credit circulation than total deposits, including time-deposits which are not subject to cheque. For example, the coefficient of correlation between wholesale prices and total deposits for the United States for the period 1930—38 is +·81, while, as we have seen, that for demand deposits and wholesale prices is +·87. In the case of India, however, as we shall presently see, the inclusion or exclusion of time deposits in the calculation of the co-efficient of correlation between credit and wholesale prices is a matter of indifference.

For India, index numbers of industrial production and employment are also not available. The available data are shown in the following table:[20]

(20) *Wholesale Prices.*—This is the Calcutta series, July, 1914=100.

Deposits. The figures have been taken from the Statistical Year Book of the League of Nations for 1938-39, p. 257 and the issue for 1940-41, p. 215.

Industrial Profits.—See *Review of the Trade of India for* 1938-39, p. 30. The number of companies varies slightly from year to year and different companies close their accounts at different dates. Still the figures are useful in indicating the trend.

Variable yield securities.—The source of these figures is also the *Review* mentioned above, p. 32. The *Review*, however, gives index numbers with 1927-28=100, we have taken averages for calendar years and shifted the base to 1929.

Notes.—The figures are of active circulation for each year ending on 31st March. See *Currency Report* for 1940-41, p. 76.

Rupees.—These are estimates by Prof. Mahalanobis. See the 'Currecny Report' for 1940-41, p.52.

India

1	2	3	4	5	6	7	8
Year	Wholesale prices, 1914 = 100	Total deposits. Million Rs.	Industrial profits. Lakh Rs.	Prices of variable yield securities.	Notes, Crores.	Silver Rs. Crores.	Total Currency Crores.
1930	116	2124	594	88·0	159	260	419
1931	96	1975	358	68·5	148	241	389
1932	91	2177	448	65·2	165	226	391
1933	87	2213	573	84·3	150	213	363
1934	89	2276	818	100·5	164	180	344
1935	91	2450	925	112·0	164	158	322
1936	91	2575	843	112·3	169	166	335
1937	102	2629	835	126·8	194	173	367
1938	95	2555	931	107·8	186	131	317

The co-efficients of correlation are:

Total deposits and wholesale prices $r = -·13$

,, variable yield securities $r = +·93$

,, company profits $r = +·91$

Wholesale prices and currency (active circulation of notes and silver rupees) $r = +·65$

There is a high degree of correlation between credit, as represented by total deposits, on the one hand, and company profits and prices of variable yield securities on the other. There is no doubt that correlation between credit and industrial production and industrial employment would be significant, that is, the coefficient of correlation in each case would be higher than +·50, for profits of companies and prices of variable yield securities faithfully indicate the trend of industrial activity.

The coefficient of correlation between deposits and wholesale prices is —·13, meaning that in India there is no connection between wholesale prices and credit—the two fluctuate independently.

The conclusion is startling. An official committee examined the causes of the rise of prices between 1890 and 1910. It had

been alleged that the Indian currency system was inelastic and that the rise of prices, which was very rapid after 1905, was due to the growth of currency. The Prices' Enquiry Committee found that "the rupee coinage of Government of India could not have exercised any important influence on the level of prices. The same, however," the Committee added, "cannot be said of credit".[21] The Government of India agreed with this conclusion.

Private deposits in banks in India in 1911 amounted to about 85 crores. The figure for 1938 is 255·5 crores, and yet, as shown by our co-efficient of correlation, the influence of credit on Indian prices is entirely negligible. It was still more negligible 30 years ago.

What determines prices in India if credit does not? The answer is cash, or currency, consisting of paper money and silver rupees, which is used in the great majority of our business transactions. While there is no direct correlation between credit and prices, there is significant direct correlation between currency and prices. The coefficient of correlation between currency and prices is +·65; it is also +·65 for the period 1915—1929.

The commercial banks occupy an important place in our money market. It is evident that they maintain relations with dealers in variable yield securities and also industrialists—our co-efficients of correlation show that, but there is a large field of productive activity which is not represented by the classes mentioned, and with which the commercial banks have no direct concern.

How our central bank is expected to discharge its duty of keeping the value of our monetary unit stable is explained very

(21) *Report on the Enquiry into the Rise of Prices*, 1890—1910 (published in 1914), Vol. I, paras. 236-37. The Government of India in the course of their review of the Report said: "There can be no doubt that, as observed by Mr. Datta (p. 83, para. 214 of the Report), the extended use of credit has had an important effect on prices" (p. iv of the same Report).

clearly in the report of the Hilton Young Commission (1925)[22] and in Schedule I attached to the same report. In connecting exchange control with credit control the Currency Commission assumed that what was true of other countries was true of India as well. No enquiry was made by the Commission into the relation of credit and prices in India. Or possibly they had conditions in view which may come into being at some date in the remote future, but which are entirely non-existent at present.

The means at the disposal of the Reserve Bank for maintaining the external value of the rupee are currency expansion and contraction. That is how the Government of India maintained exchange. The introduction of central banking has brought no change in this respect, except that there is a change of responsibility.

The maintenance of a stable rate of exchange has been the sole aim of Government's currency policy in the past, and it is so at present. No attention has been paid to price stability. There is abundant material to show that exchange may be kept stable by artificial means while prices are fluctuating. The examination of this material in detail would take us too far afield but we may recall Indian experience during 1925—31. With a value equal to 18*d.* gold the external purchasing power of the rupee was greater than its internal purchasing power, but exchange was maintained within the gold points. Even at 18*d.* sterling the rupee was over-valued, and we may have saved some of the gold that we have lost through exports by allowing the rupee to depreciate below the sterling level—what Australia, New Zealand and Japan did.

India needed no central bank to maintain exchange.

Keynes referred to the mechanism of central banking as providing 'the recognised preventives for the diseases of the financial body.' Now our financial body was grievously sick in 1931. Agricultural prices fell heavily. A crisis of unparalleled

(22) Para. 64 of the Report.

intensity and persistence took the world in its grip. As we have seen, serveral thousand banks failed in the United States. But no banking crisis occurred in India. Millions of peasants and tens of thousands of money-lenders who financed them all over the country were ruined by the crisis. There was restriction of credit for millions of producers, but not such credit as is granted by cheque-paying banks, or is controlled by the Reserve Bank.

The Rerserve Bank was not in existence then and it is not possible to say how 'the recognised preventives' of Keynes would have come into play. But there is real danger of a post-war slump. If agricultural prices tended to fall, what would be the action of the 'recognised preventives for the diseases of the financial body?' So far from being able to prevent a slump, if it came, the mechanism of central banking in our country could do little even to repair its damages.

The functions of the Reserve Bank have been clearly set forth in an admirable hand-book issued by the Reserve Bank. In regard to credit control, the powers of the Reserve Bank have not yet been subjected to any severe test. The scheduled banks are not 'as a rule large borrowers from the Bank.' The other methods of control mentioned are changes in the amount of Treasury Bills offered, in the amount of sterling purchased and in the amount of money in circulation, but, it is stated, "these methods are comparatively less effective and of limited applicability. Thus although the Reserve Bank has been entrusted with most of the powers generally given to a central bank, its actual control is limited by the peculiar character of the Indian monetary and banking system."[23]

The main conclusion of this chapter is that, apart from relieving the Government of the responsibility for maintaining the exchange value of the rupee, our central bank largely serves an ornamental purpose.

(23) *Functions and Working of the Reserve Bank of India* (Bombay 1941), p. 50.

CHAPTER II

THE CAPITAL MARKET.

The money market was reviewed in the preceding chapter. We were concerned with short-term credit—our banks do not, as a rule, take part in the financing of agricultural operations and, as we have seen, the credit controlled by the Reserve Bank does not determine prices.

In this chapter we are concerned with the long-term financing of industry, or the capital market.

The Majority Report of the Central Banking Enquiry Committee discusses the capital requirements of industries and the limited nature of the assistance provided by the joint-stock banks. The Imperial Bank, the biggest Indian joint-stock bank, cannot grant loans for a period longer than six months, nor on the security of industrial shares or immovable property. Witnesses appearing before the Committee complained that banks usually insisted on a full backing of tangible and easily realisable security for their loans and on maintaining a margin of about 30 per cent. in regard to advances against stocks, and even a higher margin in regard to stocks in process of manufacture. The Committee were aware of the risk involved in financing long-term requirements of industries with short-term deposits. There are also other difficulties. The net result is that industries are financed not by joint-stock banks but largely by managing agents. We have no space here for a description of this system, which is peculiar to India. It is discussed in the Majority Report. The Committee, while recognizing the services of this system to industry, were of the opinion that 'attempts should be made to make enterprises in India less dependent on this system for

future development.'[1] The foreign experts who were appointed by the Government of India to review the recommendations of the Central Banking Enquiry Committee, found the managing agent 'a very interesting institution, not familiar to European, or American bankers', but the system was 'open to criticism' and they agreed with the Committee that 'there might be still another financial agency to meet the requirements of industrial firms.'[2] Both the foreign experts and the Central Committee thought that when the Reserve Bank came into being, the Imperial Bank might develop the business of industrial finance. The Imperial Bank has not done so.

The Central Committee recommended the establishment, in the provinces, of a Provincial Industrial Corporation, with its capital initially or permanently supplied by Government. This recommendation had the support of five provincial banking enquiry committees. The foreign experts favoured an All-India Industrial Corporation, but they had ignored the constitutional difficulty. 'Industry' is a transferred subject.

The All-India Industrial Corporation of the experts was to avoid small-scale industry and further to restrict its activities to the field of pioneer enterprises of non-competitive character, *e.g.*, the opening up of mineral resources and large public utilities, principally electric power schemes. But the experts added a note of caution : "One ought not to buy the frame before the picture. When some industrial plan fitting in the frame, as designed here, offers itself, then the time has come to start an industrial corporation."[3]

That time has not yet come, nor the time for establishing a single provincial industrial corporation.

Industrial Banking in other Countries : Germany.

In our present enquiry it is important to know the relation of banks to industry in other countries, and for this information

(1) *Report of the Indian Central Banking Enquiry Committee*, Majority Report, 1931, p. 280.

(2) *Ibid.* p. 265.

(3) *Ibid.* p. 640

we first turn to the Report of the Central Banking Enquiry Committee. There is a brief description of the German system in the Majority Report. It is stated that the current account advances, which have a special meaning in Germany, are used "by the average German firm not only for the purpose of providing itself with working capital, but also for supplying block capital for extensions in anticipation of recourse to the investment market."[4] In regard to new undertakings, banks in Germany it is further stated, "have played an important part in providing the greater part of the initial capital, which is subsequently placed among the investing public either for offering them for public subscription or by direct sale to customers or banking firms in relation with the banks."[5]

In a separate report the foreign experts proceed to disillusion their Indian colleagues about the German system. An institution may invest in shares and bonds of industrial enterprises and make long term loans to them; it may keep a controlling influence in the management of the industry which it assists. "Such institution to the knowledge of the experts does not anywhere cultivate at the same time a regular banking business."[6] Further: "It seems necessary to state clearly that 'starting of industries' is nowhere considered to be a bank's affair."[7] It would seem that the Central Committee had entirely misconceived the relation of banks to industry in Germany, which led them to recommend a pattern which did not exist![8]

What is the relation of banks to industry in Germany? This relation has undergone great changes since the banking crisis of 1931. Before that date the German banking system was largely free from Government interference, and it was unspecialized. There was a reconstruction of the entire system in 1932—34. A new institution was created (Die Deutsche Finanzierungs-Institut A. G. (Finag), concerned with industrial

(4) *Ibid.* p. 294

(5) *Ibid.* p. 294.

(6) *Ibid.* p. 633.

(7) *Ibid.* p. 633.

(8) *Ibid.* p. 633.

finance.[9] The State extended aid to banking and enacted comprehensive legislation which placed the banks completely under Government supervision and control.

In the crisis year the Reichsbank had made considerable profits, which were used to find new capital for certain big banks (of the new capital amounting to 220 million RM of the Dresdner Bank Government provided 150 million RM).[10] The new policy was not universally approved and sometimes sharply criticized. It was feared that Government interference might bring business to a standstill[11]. The fear proved groundless. The new trends in banking gave rise to a keen discussion among experts which is of interest to us in so far as it brings out clearly the chief features of the system under which German industry had progressed in the past.

Writing on 'Reconstruction of Credit Banks' in 1931[12] Herr Berthold Schwartz contrasted the German with the English and the French systems of banking. In England, ignoring exceptions to the general rule, the commercial banks provide only short-term credit. They do not take part in initiating enterprises or company promotion. The promoters, not being banks, are more interested in disposing of securities as quickly as possible than in the lasting prosperity of the undertakings they call into being.

In France, it is explained, the provision of long-term credit for block (*langfristige Anlagekreditgeschaeft*) is the function of institutions organised as banks, the so called Banques d' Affaires, which work with their own resources and investments (*Einlagen*) of big capitalists. They remain in permanent relations with the

(9) *Wirtschaftsdienst*, Hamburg, 21 April, 1933, p. 524.

(10) *Wirtschaftsdienst*, 26 February, 1932, p. 244.

(11) For example, writing in the *Wirtschaftsdienst* of 13 May, 1932 (p. 644), Berthold Schwartz complained that the whole banking business had been placed under the supervision of the State; he feared that there was danger of all-embracing State activity paralyzing business. "*Die Drohende Gefahr voelliger Umklammerirng und Laehmung durch den Staat.*")

Wirtschaftsdienst, 14th August, 1931, p. 1421.

businesses they create, and therefore pursue a cautious, conservative policy. The result is a 'slowing down of the tempo of industrialisation.'

Referring to the German system the writer says:

"The mixed clientele of the German credit bank connects the function of deposit banks in providing working capital with the function of an Issuing House and a financing bank. The current account advances (*Kontokorrentgeschaeft*) forms the hinge (*Angelpunkt*) of credit relations with industry, whose need for block is met first by discounting bills, or simply by means of credit in the current account. The final financing follows later, through the issue, mostly by a Konsortium, of shares or bonds of the undertakings to which credit had been granted. The sums advanced are thus recouped and the position of the bank and the industrial undertakings consolidated."[13]

The crisis of 1931 shook public confidence in the union of the two forms of credit (short-term and long-term) in one and the same institution, but during a very long period this system met, with wonderful success, a very great demand for block capital.[14]

The system broke down when Government appeared on the market as a borrower at high rates of interest. This created difficulties for banks. There were also foreign complications.

A fuller account of the German system is given in the authoritative HWB.[15]

Barring the issue of notes, a German credit or commercial bank does everything, for which reason German banks are known as 'universal banks.' A credit bank draws bills, discounts bills, makes loans against collateral (*Lombardvorschuesse*), grants short-term and long-term loans in current account (*gewaehrt Kurz-und-lang fristigen kredit im Kontokorrent*), acquires shares

(13) *Ibid.* p. 1421.

(14) *Ibid.* p. 1421

(15) *Handwoerterbuch der Staatswissenschaften*, 4th edition, Vol. II. *Bankbetrieb*, p. 124, *et seq.*

and bonds, issues letters of credit and does other banking business. Since there is no specialization in banking in Germany (*für Spezial Bank in Deutschland kein Raum*, says the HWB)[16] the individual bank, transacting many different kinds of business, tends to be of a large size.

In meeting the requirements of industries forms of the usual short-term credit are employed. A loan is made by a bank by discounting short-term (3 months') bills. When the bills fall due, they remain unpaid, and a new bank acceptance is prepared and discounted to pay the old debt, which, in other words, means that short-term credit is transformed into long-term credit.

At times, as has been seen in Germany and the United States the pace of industrial progress is accelerated by inventions and other favourable conditions. Where does the capital required come from? Naturally from the banks; long-term loans for block fill the gap until new undertakers' capital is formed to extinguish the loans. Such loans for block have an economic justification. The writer proceeds :—

"What will be the bankers' attitude to the demand for such loans for block (*Anlagekredit*). Unquestionably the demand is there, and it is justified. On the other hand, are banks able to grant such credits from their resources in the form of doposits? It may be argued that a part of deposit-holdings can be lent without risk, as it always remains with the banks. It is however noteworthy that the oldest and purest deposit banks (the English), definitely refuse to grant such credit. English industry has so far lacked bank assistance in this form. It is also well known (and-misrepresented in writings) that the German credit banks grant loans for block."[17]

Such loans granted by German credit banks may be called 'interim block credit' (*Zwischenanlagekredit*). Credit in such circumstances is the fore-runner of one's own capital formation that is, the profits of the undertaking financed will enable in time

(16) HWB., Vol II, p. 138.
(17) *Ibid*. p. 151.

the loan to be paid off. But they may not, and this is the element of risk in such transactions.

Sor far we were largely concerned with the money-market. The dealings of German commercial banks in capital (*Kapital Verkehr*) are discussed in the HWB under four heads, financing, loans to Government and municipalities, the issue of shares and bonds, and the sale and purchase of securities on commission.[18] The commercial banks in Germany are members of the Stock Exchange, which is not permitted in England.

In regard to the provision of capital for new enterprises the HWB says:

"If the banks participate in the foundation of joint-stock companies, they are able to do so because they can recover the capital lent with profit by selling the shares. In fact, it has always been tempting for bank capital to call new undertakings into being, and a great many undertakings owe their existence to co-operation between share capital (Aktien), Stock Exchange dealings, and bank capital."[19]

But bankers' technical knowledge of industry is limited and they are generally inclined to withdraw from the foundation of new enterprises in the real sense. Still bankers in Germany and America have maintained their connection with the capital requirements of the business world in one way—when an individual proprietor wishes to be transformed into a joint-stock company, banks help him in procuring the required capital. The writer concludes that the connection between the business of financing (*Finanzgeschaeft*) and the ordinary business of a bank is unquestionably of very great advantage in the industrial development of a country. But he adds that the lending of short-term deposits of the money-market in form of long-term block credit on the capital market, if it exceeds certain limits, may cause trouble.

(18) *Ibid.* p. 152.

(19) *Ibid.* p. 152.

Attention is drawn in the Supplementary volume to the effect of industrial combination on bank business. It led to a reduction in the clientele for the banks and a saving in commissions for industry. The place of a number of borrowing companies was taken by one and the adjustment of supply of credit to demand now took place within the combine. The banks gained on account of improvement in the borrowers' credit. The writer concludes :—

"Although the close connection with industry in the oundation of new businesses, in the issue of securities, in opening current accounts and in doing acceptance business (*enge Verbindung mit der Industrie im Gruendungs-Emissions-Kontokorrent und Akzept-geschaeft*) is a source of grave danger in times of crisis and unfavourable *Konjunctur*, Germany has been free from great bank crashes since the catastrophe of the Leipziger Bank of 1901 ".[20]

Even in the period of the complete bankruptcy of the State (inflation period after the Great War), the credit of the larger German banks remained unaffected and later assisted recovery.

We next turn to a communist source. Lenin examines the relation of banks to industry in his pamphlet *Imperialism the Highest Stage of Capitalism*, written in Zurich in 1916. Need arose of bringing Lenin's data up-to-date. The task was undertaken by the well-known communist writer E. Varga, assisted by L. Mendelsohn.[21] Communist sources have to be used with care, as communists, from Marx, Engels and Lenin downwards, have never hesitated to twist facts to suit their purpose. But in the present case the facts suited their purpose and needed no twisting. And they are well known and generally admitted.

Lenin's thesis was that industry was passing under the control of bankers, and since there was a tendency towards concentration in banking, the direction of the whole economic

(20) *HWB. Ergaenzungsband* (1929), p. 67.

(21) *New Data for Lenin's Imperialism.* Printed in Moscow (London, Lawrence & Wishart). Year of publication not given.

life of a country was being assumed by a small but extremely powerful financial oligarchy.

In regard to the representation of banks on supervising boards of joint stock companies in Germany, the following facts are quoted in *New Data* based on a German statistical publication.

At the end of 1932, out of a total of 9,634 joint stock companies in Germany, 2656 companies, the total membership of whose boards was 18,171, gave information as to the composition of their supervisory boards. Joint-stock and private banks were represented on the boards of 1541 joint stock companies, which had a total of 11, 948 supervisory boards. The following table shows the distribution of bank representatives among the various groups of joint-stock companies for which the data are available. [22]

Group of joint-stock companies according to percentage of bank representatives on their supervisory boards.	Joint-stock companies in each group.		Number of members of supervisory board in each group.	Number of bank representatives in these groups.	Average per cent. of bank representatives in each group.
	Number	Total.			
Over 50 %	159	10.3	1,136	773	68
25 to 50%	583	38.1	4,150	1,535	37
10 to 25 %	700	45.7	5,293	985	19
up to 10%	99	5.9	1,367	104	8
Total.	1541	100.00	11,948	3,397	28

Lenin says:

"The close ties that exist between the banks and industry are the very things that bring out most strikingly the new role of the bankers" [23], which, according to Lenin, consisted in the destruction by the banks of the independence of the industrial

(22) *New Data*, pp. 93—95.

(23) *New Data*, p. 96.

concerns they financed. We may dismiss this as communist propaganda, but Lenin was not mistaken about the 'close ties' binding banks and industry together.

Lenin next refers to the establishment 'of a very close personal union between the banks and the biggest industrial and commercial enterprises, the merging of one with another through the acquisition of shares, through the appointment of bank directors to the supervisory boards (or Boards of Directors) of industrial and commercial enterprises and *vice versa.*[24] The statistics, again borrowed from the *New Data*, illustrate the growth of the 'personal union':— [25]

Representation of big banks on the supervisory boards of industrial companies:—

Represented by	Deutsche Bank and Diskonto Gesellschaft		Dresdner Bank		Berliner Handels—gesell schaft		Total for big banks	
	1903	1932	1903	1932	1903	1932	1903	1932
1. Directors, members of boards of directors of banks or members of supervisory boards of banks.	443	896	234	281	74	307	751	1,484
2. Chairman or by more than 2 persons.	179	158	77	31	33	39	289	228
Total ...	622	1,054	311	312	107	346	1,040	1,712

The figures are not of much use for comparative purposes on account of bank amalgamations, but they indicate close ties between banks and industrial companies.

Further, in 1932, 70 big industrialists were members of the supervisory boards of the three biggest Berlin banks mentioned in the table (in 1929 the Deutsche Bank merged with the Diskonto Gesellschaft). The statistics reveal something more than 'the sympathetic attitude of banks towards industry' of which the foreign experts of the Banking Enquiry Committee speak.

(24) *New Data*, pp. 96—98.
(25) *New Data*, p. 1712.

From the 'personal union' referred to above results the interlocking of industrial and financial capital. On the 1st of January 1932, there were in Germany 1103 industrial companies organised on the joint-stock principle with a share capital of 6,772 million Marks. Of this share capital that owned by banks and finance companies amounted to 1273 million Marks (about 19 per cent).

On the same date banks and finance companies organised on the joint-stock principle had a share capital of 2993 million Marks. Of this capital that owned by industrial companies amounted to 227 million Marks (7·6 per cent).[26]

We have in this section, for the most part, let the German authorities speak for themselves. This was necessary in view of the references, which are not exactly complimentary, by the foreign exports to the account of the German system given by their Indian colleagues, and the misleading account given in the experts' own report (two of the experts were Germans). It

(26) The whole table is reproduced below from the 'New Data' (p. 121) for convenience of reference'—

The Interlocking of Industrial and Financial Joint stock Companies in Germany.

(January 1, 1932)

	Number of companies	Total share capital (million marks)	Companies whose stock is owned by other companies						
			Number of joint-stock companies	Total share-capital. Million Marks	Share capital in the hands of other companies according to industry.				
					Total.	Banks and Finance companies.	Industrial companies.	Water, Gas, Electricity.	Transport.
					(Million marks)				
Banks and finance oompanies...	986	4,478	346	2,993	823	495	227	47	38
Industrial companies ...	5,443	13,680	1,103	6,772	3,253	1,273	1,858	63	21
Water, gas, electricity ...	286	2,885	203	2,138	1,013	521	48	437	8
Transport ...	439	1,913	187	1,040	321	133	30	26	119
Total ...	10,437	24,653	2,288	13,475	5,697	2,496	2,285	578	198

Source: *Vierteljahrshefte zur Statistik des, Deutschen Reichs*, 1932, H. 2, pp. 76, 78-80.

appears from the experts' report that German Commarcial banks also cultivate financial transactions 'if an opportunity occurs.' 'Incidentally' they get to know their industrial customers better. Then they 'may delegate a member of their management' to the Board of Directors of the company they had got to know better. "The banks" the experts add "must not however, allow themselves to be drawn into liabilities and investments which are not compatible with sound banking. The sympathetic attitude of banks towards industry is the real element of this banking policy."[27] All that does not make us much wiser about the German system. What are the investments compatible with sound banking? Even in India the 'sympathy' may be taken for granted. A more important question is how this sympathy is expressed in financial terms.

It is impossible for modern industry to develop rapidly without strong and continued support from financing institutions of one kind or another. Since there were no special banks in Germany, the commercial banks stood behind German industry, and behind the commercial banks stood the investing public. On account of the tendencies inherent in capitalism, the connection between banking and large scale industry inevitably takes the form of a 'personal union', or let us say 'sympathy,' the term preferred by experts.

In the years preceding the present war the importance of the role of banks in financing German industry tended to decline.[28] A new factor had arisen — all-embracing State activity.

Japan

The Majority Report has not much to say about the banking system of Japan and the Minority Report still less. The information of foreign experts was derived, as they say, 'from an important Japanese gentleman in India,' whose knowledge of the subject was admittedly not profound.

(27) *Majority Report of the Central Banking Enquiry Committee*, p. 634.

(28) *The Economic Recovery of Germany from March*, 1933, *to March*, 1938, by C. W. Guillebaud (Macmillan 1939), p. 93.

About the Japanese banking system our experts knew practically nothing, but that did not prevent them from giving us sound advice :

"Japanese methods and experience ought to be studied more closely but India ought to be very reluctant to adopt the Japanese system of all-round State-aid in economic life which has still to prove its success. What has happened in Japan during the last few years? A temporary stoppage of payment by practically all banks, and the forcible interruption to which the whole economic life of the country has been subjected at various junctures, is a grave danger signal."[29]

And what happened in Germany (not to speak of the United States) in 1931? The entire banking system collapsed, and it was all-round State-aid and State regulation that set economic Germany on her feet again.

The foreign experts included Dr. Trip, a former President of the Bank of Java. If this expert had remembered a report entitled *The Development of Large-scale Industry in Japan.*[30] prepared at the instance of his own Government, he might have been 'very reluctant' to join in the condemnation of all-round State-aid in economic life to which Japan owes her industrial advance.

The remarkable progress of Japan had attracted the attention of the Dutch Government and they thought of utilizing Japanese experience for the benefit of Java. At the end of 1913 the Government appointed Heer Van Kol to carry out an investigation, 'for there was much to be learnt from the growth of large-scale industry in Japan.'[31] Heer Van Kol visited Japan in the course of his investigations and made use of a voluminous literature on the subject. His report was published in two parts in 1916, and it is an authoritative and illuminating document.

(29) *Majority Report*, p. 638.

(30) *De Ontwikkeling der Groot Industrie in Japan*, Report prepared at the instance of the Dutch Minister for Colonies. The Hague, 1916.

(31) "...daar voer de ontwikkeling van een inlandsche groot-industrie in Japan veel te leeren is". Report by H. H. Van Kol., Part I, pp. 5-6.

The account given below is chiefly based on Heer Van Kol's report mentioned above and for development since 1914 on Vol. 46, Part I of *Weltwirtschaffliches Archiv*, a leading German scientific journal devoted to world economics. The whole volume is concerned with Japan and contains articles by Japanese professors on the economic life of Japan. Of special interest are two articles: "The organisation of credit and credit policy in the industrialisation of Japan" and "The connection between the State budget and industrialisation in Japan."[32]

The modernisation of Japan began with the Meiji Restoration of 1868. When feudalism voluntarily made place for capitalism, the question arose whether Government was merely to assist private enterprise or to start undertakings itself to serve as a model and an incentive to the people. The latter course was adopted, and the State erected ship-building yards, and spinning and sugar factories, built railways and developed the mining resoruces of the country. Later, some of the State enterprisers were handed over to private enterprise, the State retaining in its own hands post, railways, and the munufacture of armaments and war ships; salt and tobacco also became State monopolies.

"Capitalism in Japan," says Prof. Hijikata 'has not grown from bottom upwards, out of capitalistic enterprise of the people; rather, it has been forced from top downwards."[33]

Similarly Prof. Araki says:

"The growth of industrialism in Japan is proceeding side by side with the expansion of the whole credit system. In contrast to most industrial countries, the credit system, however, is less the consequence of the growth of trade and production; rather, at the time of Reforms of the Meiji Restoration, it was financial interests which stimulated the growth of trade and industry."[34]

The industrialisation of Japan began late, and to enable Japanese industry to compete on favourable terms with foreign

(32) By Prof. M. Araki and Prof. Hijikata respectively.

(33) *W. A. Band* 46 *Heft*, I. Pp. 209-10.

(34) W. A. July, 1937, p. 185.

manufacturers, it was necessary to give it all conceivable assistance (*all denkbare Unterstuetzung*).[35] The banking system, as we shall see presently, benefited from Government policy in a large measure.

Almost every page of Heer Van Kol's report (Part I) bears evidence of the leading part taken by the State in bringing about industrial development. Almost every undertaking, he noted, concerned with agriculture, industry, fishing, mining, trade and shipping enjoyed Government aid, and he quotes with approva an earlier French writer:

"The great strides that the Japanese industry has taken is due to intelligent State protection, which has not hesitated to make any heavy sacrifice to insure this development."[36]

In the beginning industry was official ridden and the Japanese caste system also hindered progress. But gradually these difficulties were overcome. In the beginning more attention was paid to securing the home-market for Japanese producers, than to exports. The outbreak of the Great War gave a fillip to the export trade, and Government help now more and more took the form of indirect assistance. "The rigid caste system of former times has been broken," said Baron B. Nakona, President of the Tokyo Chamber of Commerce in 1915, "industry and trade have become honourable professions, every Japanese may now choose an occupation according to their inclinations; those possesing skill and talent rapidly advance and contribute much to the evolution of industry, so that in this sphere Japan faces a pleasant future."[37]

Capital was at first scarce in Japan, shown by the fact that the rate of interest on gilt-edged securities was as high as 10 per cent. The national savings were negligible and there was a total lack of industrial capital. Japan, in the same way as Java,

(35) *Ibid.* p. 185.

(36) "...l'essor prodigieux qu'a prise l'industrie Japonaise est due à l'intelligente protection du gouvernement qui n'a reculé devant aucun sacrifice matérial pour en assurer le dévelopment' Van Kol's Report, Part I, p. 60.

(37) *Ibid.* p. 61.

says Heer Van Kol, was faced with the difficulty that progress was impossible without capital, which the people could not provide. How was the capital found? "The State intervened and created it itself" (*l' Etat est intervenu et l' a cre'e' lui même*).[38]

Capital creation by the State did not take the form of paper money, but domestic and foreign loans. By 31st March, 1914, the internal debt had risen to about 1½ milliard yen, and foreign debt to 1 milliard yen. Large capital investments were also made by the leading rich families, who contributed in no small measure to the industrial prosperity of Japan.

Having provided itself with the means of granting assistance, the State proceeded to the fulfilment of its task. "The banks," says Heer Van Kol "set up with the strong support of the Government, advanced capital to industry at very low rates, and as these subsides and advances were paid out of the loans mentioned above, a great part of this was foreign capital."[39]

In India foreign capital has set up industrial enterprises (tea, coffee, jute, woollen manufacture and tanning, to give a few examples). Foreign capital was not employed for this purpose in Japan. Capital to build Indian railways was raised in England. But the idea that foreign capital might be obtained for industrialisation was never entertained by our Government.

Co-operation between banks and Government was effective in promoting industries. The bankers provided a far better agency than the officials, employed formerly, for giving State help to manufacturers. The banks were spread all over the country and possessed intimate knowledge of business conditions and their clients.[40]

They mobilised the savings of the population and the wealth inherited from the past. "Thanks to Government support, they could make advances at low rates to industry."[41]

(38) *Ibid.* p. 75.

(39) *Ibid.* p. 81.

(40) *Ibid.* p. 87.

(41) *Ibid.* p. 86. "Dank zij den steun van het Gouvernement, konden zij tegen age rente kapitaal leenen aan de nijverheid"

Workers were trained in modern methods of manufacture in technical schools and workshops spread over the whole country. The services of foreign technicians were obtained and students were sent for training abroad (what we have done for the first time during this war, for war purposes). Japan very speedily acquired a modern outlook, a gift of the West. In borrowing Western methods, Japan did not foreget the Western art of advertising. The advertiser leaves his traces everywhere. One meets him in the streets, on railway trains, in ships, on the tops of mountains, in the fields, temples, bathing places, barber's shops, tea shops and restaurants—in fact everywhere. The advertiser even enters people's houses in the enticing forms of pretty women and generals wearing gorgeous uniforms.[42] But even advertising, as other arts, says Heer Van Kol, gives evidence of the poetical imagination of the Japanese. Some interesting examples are given below.[43]

The capital resources of Japan in the form of bank loans and deposits, deposits with Trust Companies and in the Post Office Savings Bank Accounts, funds of Co-operative Societies and the reserves of Insurance Companies, increased from 3,000 million to 24,000 million yen beween 1914 and 1932—an eight-fold increase. During the same period the volume of production increased five-fold, foreign trade four-fold and the note circulation 3·7 times.[44]

As in India the bill market in Japan is little developed; "the safes of the Bank of Japan are to-day predominently filled with Government securities."[45] But in other respects there

(42) „Vooral van mooie vrouwen en rijk geueniformde generaals" (*Ibid* p. 111). The generals must be on the retired list. The use of uniformed generals as advertising agents is peculiar to Japan.

(43) "A shop-keeper says in his prospectus: 'Our goods are delivered with the speed of a canon-ball;' a paper manufacturer: 'My paper is strong as elephant hide;' a grocer advertises: 'Our vinegar, of exceptional quality, is more sour than the gall of the most develish of step-mothers.' And what can be more enticing than this invitation? 'Enter our stores, you will be received as by a father who is trying to find a husband for his daughter without a dowry;' Or 'you will be always greeted like the rays of the sun after an abominable rainy day' (Ibid p. 111).

(44) W. A. July, 1937 pp. 185-86.

(45) *Ibid.* p. 197: "Japan Keinen eigentlichen Wechselmarkt kennt" (There is no real bill market in Japan).

are important differences between the structure of Indian and Japanese credit.

Of the total of all deposits with commercial banks amounting to 9·9 milliard yen in 1934 not less than 5·9 milliard yen represented time liabilities or fixed deposits (59·8 per cent.). For India this proportion was 45·4% in 1938-39, and 24·6 per cent. in March, 1943. The present situation is abnormal and it will end with the war, but it is obvious that banks can do more for industry with a higher than a lower proportion of fixed deposits to the total.

Further, there are two kinds of short-term deposits in Japan. There are short-term deposits in the ordinary sense, those subject to cheque, which accounted for only 1·2 milliard yen out of total deposits of 9·9 milliard yen (12·1%). The special short-term deposits, which amounted to 1·9 milliard yen, cannot be operated upon by cheque but can be withdrawn only by means of a pass.

All deposits, whether for short or long periods carry a rate of interest.[46] In India, as in most other countries, no interest is paid on current accounts.

The Bank of Japan performs the function of a Central Bank. It re-discounts bills offered to it and makes use of its powers of open market operations (*e.g.*, in 1932 when it was considered desirable to reduce the supply of money in the money market.) It enjoys the right of note-issue, but there are two other banks which are empowered to issue notes, the Bank of Chosen and the Bank of Taiwan, both semi-Government institutions. What distinguishes the Bank of Japan from the Reserve Bank is its close connection with the money and capital markets. More important than the function of note-issue is the position of the Bank of Japan as the backbone of Japanese banking in the financing of industry.[47]

(46) *Ibid.* p. 198: "Kurzfristige Gelder ohne zins sind in Japan undenkbar" (Short-term money without interest is inconceivable in Japan.)

(47) *Ibid.* p. 190.

Further, in times of national calamity, such as the Great Earthquake of 1923 and the financial crisis of 1927, the Bank of Japan has, according to Prof. Araki, granted long-term loans to firms which were never repaid, or which ultimately took the form of subsidies. Prof. Araki views such loans with disfavour, as such methods of granting assistance are liable to be misused under a party system of government.[48]

Of particular interest to us are the special banks of Japan (*Spezialbanken*). These banks are semi-official and it is through them that the Government exercises its influence on the money and capital markets. The rapid economic progress of Japan during the past few decades, in view of the peculiar economic conditions in Japan, called a large number of special banks into being under the leadership and with the assistance of the State. The more important of these special banks are the following :

Special Banks of Japan (end of 1935.)

Figures in Million yen.

Name of Bank	Authorised capital.	Paid-up capital	Reserves
Yokohama Specie Bank ..	100·0	100·0	131·2
Land Mortgage Bank of Japan	111·8	87·7	90·7
Agricultural & Industrial Bank	84·5	77·7	73·5
Hokkaido Colonial Bank ..	20·0	12·5	14·8
Bank of Taiwan ..	15·0	13·1	4·0
Industrial Bank of Japan ..	50·0	50·0	28·1
Bank of Chosen ..	40·0	25·0	6·9
Chosen Industrial Bank ..	30·0	25·0	13·3
Total ..	451·3	391·0	362·7

A large share is taken in financing the foreign trade of the country by the Yokohama Specie Bank, which has 40 branches abroad and a paid-up capital of 100,000,000 yen. In this respect, again, conditions in India are materially different. No Indian Exchange Bank exists and the proposal of the Central Banking Enquiry Committee regarding a State Exchange Bank was unreservedly condemned by the foreign experts. Financing

(48) *Ibid.* p. 190.

of foreign trade by the existing banks meets all requirements ; this financing is done in the cheapest way, the banking situation of the country certainly does not require the creation of a new Exchange Bank ; and if, as was proposed by the Central Committee, Government remittance business was transferred to an Indian Exchange Bank, 'international confidence in the financial policy and wisdom of the Indian Government would be shaken.'[49]

The Industrial Bank of Japan was founded in 1902 with the object of financing industry. It grants long-term loans, chiefly, but not soley against the security of fixed capital (plant and buildings). By its operations it assists industry in capital expansion (*Erweiterung des Industrieanlagen*). It is not permitted to make advances to agriculture as land mortgage banks exist for that purpose but, owing to the peculiarities of the Japanese banking system, land mortgage banks, may, when need arises, assist Industrial Banks.[50] As the Industrial Bank of Japan usually grants long-term credit, it cannot rely on deposits alone. It enjoys the privilege of issuing bonds or debentures (*Schuldverschreibungen*) to an amount ten times greater than the sums it receives (*Einzahlungen*). At the end of 1935 its deposits amounted to 69 million yen and the industrial bonds and debentures issued by it to 279 million yen. The Industrial Bank of Japan is unlike the issuing houses of Europe in so far as its chief task is not the issue of capital directly but making arrangements for its issue through others.

The great Trust Companies controlled by a small number of leading Japanese families (*e.g.*, the Mitsui, the Mitsubishi and the Yasuda Trust Companies) also command considerable resources which are employed in the financing of industry, so much so that they offer serious competition to the Industrial Bank of Japan.

At the end of 1934, 484 commercial banks had an authorized capital of 1·8 milliard yen and reserves of 540 million yen.

(49) *Majority Report of the Central Banking Enquiry Committee*, p. 614.

(50) W. A. July, 1937, p. 192.

The banking legislation of 1927 required all banks to be organised as joint-stock companies with a minimum capital of 1 million yen ; in exceptional cases 2 million yen was the minimum amount fixed for banks in bigger towns, and ½ million yen for those in smaller country towns. As a result about 500 banks disappeared through amalgamations. For their operations the Commercial banks depend on their own capital and the deposits which they attract, but, when necessary, they can get their bills re-discounted by the Central Bank.

The following table shows the deposits, loans and the authorised capital of the six largest commercial banks of Japan.[51]

In million yen

Name of Bank	Deposits	Credit granted	Aurhorised capital
Sanwa Bank ..	1,115	495	107
Sumitomo Bank ..	952	522	70
Dai-ichi-Bank ..	913	448	57
Yasuda Bank ..	833	579	150
Mitsui Bank ..	796	452	100
Mitsubishi Bank ..	731	294	100

Of the loans granted by the commercial banks the greatest part is covered by the security of land and buildings, sureties and general business trust. The figures for 1934 are the following.

Loans against :	Per cent. of total loans.
1. Government securities	3.9
2. Municipal securities	0.5
3. Shares	28.2
4. Foreign Government & other securities	13.2
5. Land and Buildings	21.5
6. Rights to goods, ships, mines etc.	3.9
7. Sureties and general business trust	28.8
	100.0

(51) *Ibid.* p. 198.

(52) *Ibid.* p. 198.

The proportion of loans under heads (5) and (7) was a little over 50% in 1934 and appreciably higher in the preceding years.

Finally attention may be drawn to the tendency towards banking concentration in Japan which has, so far, not revealed itself in India. The total number of banks fell from 2,169 in 1914 to 597 in 1934, but the number of branches increased from 3,508 in 1914 to 4,713 in 1934. During the same period the paid-up capital of banks increased from 666 million to 1,657 million yen, and reserves from 257 million to 1,051 million yen. In 1934 the banks earned a profit of 296 million yen and paid out 104 million yen in dividends.[53]

France

For information about France we are indebted to a valuable contribution to the W.A. of Kiel mentioned above (Vol. 45, Part I for Jan., 1937) by Prof. Jean Marchal and Paul Hugen, both of Faculte de Droit, University of Nancy.[54] The contribution is entitled "Relations between the capital market and industry in France."

The joint-authors say at the outset: "As in all capitalistic countries, so also in France, production and credit are most intimately connected together."[55] Let us see how.

As in all countries the money market in France is a market for short-term loans; the capital market provides long-term finance. But the two are inter-connected as there are debtors and creditors who are able to operate in both.

How are industries financed?

The pocess consists of two phases. First, there are banks which directly participate in industry. They extend credit for moderate and long periods to a new firm, or an old firm planning expansion, and for this receive a number of shares which give

(53) *Ibid.* p. 189.

(54) W. A. for January, 1937. "The relations between the capital market and industry France."

(55) *Ibid.* p. 1.

the lending bank a certain right of control over the firm concerned. After a few years, when the firm is working and showing profits, the second phase begins—the offer of stocks and shares for public subscription. The lending bank may retain some of the shares which it had acquired, but it disposes of the greater part of the issue, either by itself or with the co-operation of other banks. Thus the bank again places itself in funds and is ready to finance another venture. That is how banks serve as a link between savings and investment.

Three types of banks take a share in the financing of industry :—1. Etablissements de Credit, 2. Banque d.'Affaires, and 3. Provincial and Local Banks. These three types have not always retained their original character or functions. For example, Etablissements de Credit started with mixed banking which included providing capital to industry, but gradually changed over to deposit banking so that their direct participation in industry grew less important.

But Etablissements de Credit created daughter institutions (*Tochter-gesellschaften*) for the financing of industries which they did not now directly undertake themselves. This system arose after the Great War and has developed very rapidly since then. The financing institutions can always rely for support on the mother-bank ; they find their own capital in a large measure by issuing shares and bonds. They grant loans for a period varying from six months to 20 years. Loans are made against the mortgage of property, against the security of objects of value and the guarantee of a third party.

The Banques des Affaires, which have been mentioned before are divided into three groups : The Haute Banque, the Banque d'Affaires in the narrow sense, and Societes de Participation.

(56) The following six Etablissements de credit are mentioned: Comptoir National d'Escompte de Paris, Crédit Industrial et commercial (Société Genéralé de), Crédit Lyonnais, Société Géneralé pour le Développement du commerce et de l' Industrie, Crédit Commercial de France and Banque Nationale pour le Commerce et l' Industrie.

The Haute Banque was associated with the development of French industry in the 19th century. It comprised the financial houses founded by big capitalists like Rothschild Frères, Mirabaud et Cie, Holinguer et Cie and others. The foundation of Banque de Paris et des Pays Bas broke the monopoly of the Haute Banque group; still, in 1934 only 7 houses of the Haute Banque occupied 153 places on the Boards of Directors of joint-stock companies in France.

Banque d' Affaires in the narrower sense is a real financing institution. Examples are Banque de Paris et de Pays Bas (1872) Banque de l'Union Parisienne (1904) and Crédit Mobilier Francais (1902). They work with large capital and reserves, and their time liabilities are almost equal to demand liabilities.

In course of time, particularly after the Great War, the Banque d' Affaires began to take over more and more the character of German universal banks.

Le Societes de Participation.[57] Like Banque d'Affaires financing is the chief function of these institutions, but unlike Banque d' Affaires, Societes de Participation limit their activities exclusively to participation in industry, and neglect other banking business. " Indeed some of them devote themselves to only one form of participation, namely, the acquisition of shares, so as to be able to control a group of undertakings."[58] Sometimes they are interested only in a particular branch of an industry of which they possess specialized knowledge.

Le Societes de Participation may be divided into two groups (A) those founded by financing banks, and (B) those established by industries. Group (A) is more important.

(57) Sociétés de participation are also called 'Sociétés de placement, Sociétés de contrôle, sociétés de financement. Examples of such associations are: Banque Cotonnière, Crédit Sucrier and Omnium International des Pétroles (founded by Banque de Paris et des Pays Bas); Association Minière, Société Financièr Francaise et coloniale, and Union Européene Industrielle et Frcanière (controlled by Banque de l' Union Parisienne); and Société Généralé des valueurs de Banque, and die Société Centrale pour l' Industrie Electrique (founded by Société Géneralé)

(58) W. A. for January 1937. p. 17.

Group (*A*). The institutions possess a specialized knowledge of the industry which they finance. The mother institution sometimes possesses a number of such daughter institutions in different branches of industry, which enables it to balance the risk of loss against the chances of gain. By investing a comparatively small amount, the mother institution acquires the maximum amount of influence over industrial undertakings. For example, suppose a bank owns 50% of the share-capital of a participating society, and this society also 50 per cent. of the shares of an industrial firm. In such a case real control lies in the hands of the bank. The joint-authors give an example. After the Great War the Société Générale removed all traces of industrial participation from its balance sheet, but participation continued in fact through an institution found by it—Société Générale des Valueurs de Banque.

Group (*B*). These associations are created by industrial groups. They are small in number and work in secrecy (*hinter den Kulissen*) so that not much is known about their activities. An example is the Mining Union founded by the French mining industry in 1923. The object of these institutions is to save for the industry the considerable profits made by promoters. Secondly, the industry concerned also expects financial aid in a time of trouble. There are restrictions on the transfer of their shares.

Provincial and Local Banks. The field of activities of these banks is restricted to a town, or, in the case of a Provincial Bank, to a few districts (Departments). These banks were originally commercial banks, but not content with employing their funds in discounting bills, they turned their attention to the development of the industrial resources of their locality by granting long-term credits in the guise of short-term credit. The joint authors tell us that such banks succeeded in promoting the commercial and industrial development of Lorrain by granting credit in the usual current account, which was renewed again and again for years.[59] By 1929, however, the relations of Local

(59) Ibid p. 20

and Provincial Banks with the capital market had become weaker and those with the money-market closer.

How Industrial securities are marketed.—When a bank disposes of the securities it had acquired in participating in the foundation or expansion of an undertaking, its participation ends. How is that effected?

Banques d'Affaires and Etablissements de Credit co-operate in the marketing of securities. The preliminary arrangements are made by a Banque d' Affaires and the actual sale carried out by Etablissements de Credit.

When the amount of the issue is large the Banques d'Affaires form a Konsortium (Syndicat Financier). Members of the Syndicate take over the whole risk (or issue) and divide it among themselves. Sometimes only a guarantee is given that the whole issue will be placed with the public, the portion remaining unsold becoming the property of members of the Syndicate. The guarantee reduces the need for cash on the part of the Syndicate.

There are two methods of dividing the unsold issue among the members of the Syndicate. In the Syndicat à la Parisienne the unsold issue is divided according to the share of each member in the Syndicate. Thus if a member had undertaken to sell one-third of the issue, he would be assigned one-third of the unsold issue, even though he had succeeded in selling his original allotment. In the Syndicat à la Lyonnaise regard is paid to the success or failure of each member in selling his original allotment. If a member fails in his assigned task, other members of the Syndicate have not to suffer much on this account.

There are three methods of marketing (1) asking the public to subscribe, (2) sale over the bank counter, (3) sale on the stock exchange. Recourse is had to the stock exchange when foreign securities, which are already quoted on foreign stock exchanges, have to be introduced to the French public. In the case of purely domestic securities the first two methods are usually employed. The financing institutions possess few branches, and therefore the sale over bank counters takes place in Etablissement de Credit which possess a net-work of branches all over the country.

Summary.

The following facts emerge clearly from our brief study of the capital market in India and other countries.

India.—Our banks have failed to forge a direct link between savings and investment. The link that they provide is indirect. They finance trade, which, to that extent, sets capital free for investment in industries.

Germany.—Before 1931 Germany had no special type or types of banks for industrial finance. Most of the commercial banks were active both on the money and the capital markets. When there was a demand for it, the commercial banks provided long-term credit under the forms of short-term credit. They also took part in the foundation of new undertakings. There is evidence of the association of banks in the management of industry and of inter-locking of finance and industrial capital.

Japan.—The industrial development of Japan was rendered possible by State aid. Semi-official banks founded by the State meet the long term needs of industry and finance the foreign trade of the country. Valuable assistance is also given by Trust Companies. A peculiarity of Japanese banking is the remarkably small proportion of cheque-able deposits. This must be a source of considerable strength to commercial banks.

France.—Of the greatest importance in the direct financing of industry are the Societes de Participation, which are not independent institutions, but connected with and controlled by banks. There is close co-operation, as in Germany, between share-capital, the stock exchange and bank capital. Several types of institutions, including commercial banks, have, in the past assisted in the direct financing of industry.

The conditions under which banks can successfully undertake industrial finance may now be clearly stated. They deserve attention. We assume :

1. That capital is available for investment.
2. That the public is willing to invest, or is investment-minded.

3. That banks enjoy public confidence.

4. And last, but not the least, that general political and economic conditions are such as to make investment profitable.

All these conditions must be assumed to exist for successful industrial finance. Where capital is scarce, or shy ; where people prefer to hoard their savings instead of investing them ; where banks are not strongly entrenched in public confidence ; and lastly, where general conditions, due to a combination of political and economic circumstances create a feeling of uncertainty in regard to industrial profits, it is impossible for banks to call new industries into being. Suppose a commercial bank finances a new enterprise. It acquires shares of and a controlling interest in the undertaking. Ultimately these shares have to be disposed of. When the moment for the offer of securities for public subscription arrives, suppose the subscribers do not appear. The bank or the Konsortium will be left ' holding the baby,' and industrial finance will come to an abrupt end.

CHAPTER III.

A PLAN OF RECONSTRUCTION

In chapter I we made a study of the Indian money market and found that before the war there was no relation between credit and prices in India, and that our Central Bank largely served an ornamental purpose.

In chapter II we have studied the role of banks in initiating new undertakings and in the growth and progress of industry generally in Germany, Japan and France.

We can now address ourselves to our main task—devising a plan for the development of Indian joint-stock banking with special reference to the assistance banks can render in the growth and progress of Indian industry.

We interpret 'growth and progress of Indian industry' as rapid industrialisation of the country. The meaning and cost of industrialisation are dealt with separately in Appendix B.

The main points of this chapter are two: (1) orthodox methods of finance will not industrialise India within a reasonable period of time, and (2) India can be rapidly industrialised through bank credit if the country can be persuaded to adopt unorthodox, but not untried methods of finance, and to reconstruct its banking system with that object in view.

Orthodox Methods of Finance

It will be agreed that before the war we possessed neither the organisation nor the resources for industrialisation. We have already seen that among 27 countries India had the lowest per capita deposits in 1939 (2·2 U.S.A. dollars). The following

table shows that in the same year, among 30 countries, India had the smallest amount of currency per head of the population (2·8 U.S.A. dollars.)

Currency (notes and coins in circulation)

Country and currency unit	Currency (Millions) 1939	Population (Millions) 1939	Currency per head	Value of currency in U.S.A. cents	Currency per head in U.S.A. dollars.
1. India, Rs.	3609*	382.0	9.45	30.03	2.8
2. Iran, Rial	1010	15.0	67.4	5.20	3.4
3. Egypt, £E	26.4	16.7	1.58	403.09	6.4
4. Poland,** Zloty ...	1866	35.1	36.1	18.86	6.8
5. Brazil, Milreis ...	4970	40.9	121.5	6.06	7.4
6. Bulgaria, Lev ...	4245	6.6	643.2	1.20	7.7
7. S. Africa £	23.3	10.3	2.26	397.41	9.0
8. Greece, Drachma ...	9453	7.2	1312.9	0.72	9.5
9. Protugal, Escudo ...	2718	7.6	375.6	3.66	13.1
10 Japan, Yen	4257	72.5	58.7	23.44	13.8
11. Yugoslavia, Dinar ...	10681	15.7	680.3	2.27	15.4
12. Canada, Dollars ...	247	11.4	21.7	87.62	19.0
13. Hungary, Pengoe ...	1112	13.5	82.4	26.32	21.7
14. Australia, £	53.6	7.0	7.66	313.13	24.0
15. Ireland, £	19.4	2.9	6.69	403.09	27.0
16. Argentine, Peso ...	1191	13.1	90.9	29.77	27.1
17. Italy, Lira	24432	43.9	556.5	5.05	28.1
18. Rumania, Leu ...	55946	13.3	4206.5	0.70	29.4
19. Denmark, Krone ...	644	3.8	169.5	19.3	32.7
20. Spain, Peseta	8707	26.0	334.9	9.95	33.3
21. New Zealand, £ ...	19.3	1.6	12.08	314.35	38.0
22. United Kingdom, £ ...	554.6	47.7	11.21	393.01	44.1
23. U.S.A Dollars ...	5974	131.4	45.4	—	45.4
24. Norway, Krone ...	603	2.9	207.9	22.70	47.2
25. Sweden, Krona ...	1422	6.3	225.7	23.80	53.7
26. Belgium, Franc ...	27994	8.4	333.3	16.58	55.3
27. Netherlands, Gulden ...	1153	8.8	131.0	53.11	69.6
28. Germany, RM ...	14502	79.7	182.0	40.1	73.0
29. France, Franc ...	149416	42.0	3557.5	2.23	79.3
30. Switzerland, Franc ...	2050	4.2	488.1	22.42	109.4

*Notes 2,359,000,000

Silver rupees 1,250,000,000

Total 3,609,000,000

**Figures for 1938

For the estimate of silver rupees in circulation, see the Currency Report for 1940-41, p. 52.

Source: For statistics of notes and coins in circulation in different countries see Statistica Year-Book of the League of Nations, 1940-41, Table 101. For rates in U.S.A. cents see Table 96, (a) of the same Year-Book.

It is not a coincidence that our name tops the list in both cases. When deposits per head are plotted against currency per head, the points show a distinct upward trend, which is measured by the straight line with the equation :[1]

$$y = -7{\cdot}31 + 4{\cdot}14x$$

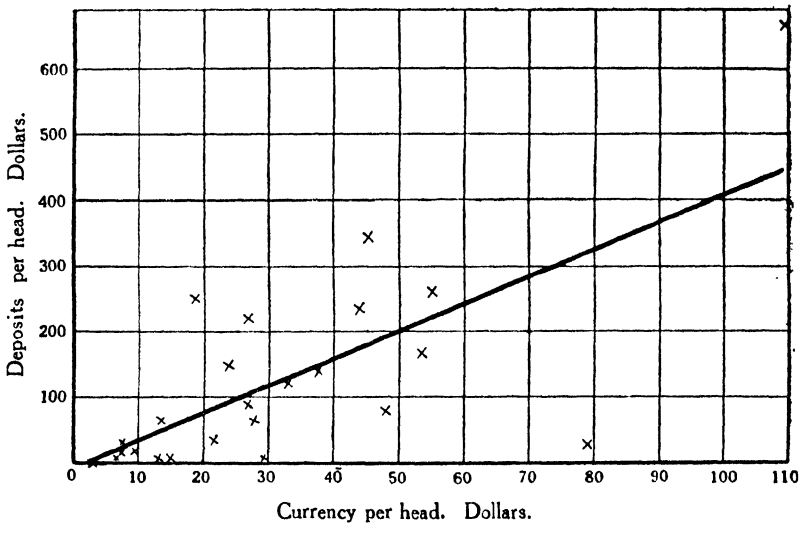

Fig. 8.

Showing correlation between currency and deposits per head in 24 countries. For date see table on page 53.

There are exceptions to the rule. For example, Canada, with per capita currency of 19·0, had per capita deposits of 249·7 and, at the other end, France, with a per capita currency as high as 79·3 had per capita deposits as low as 29·5. But, on the whole, where there is more currency per head, deposits per head are also larger.

Considering the cost of industrialisation, per capita deposits and currency of less than 3 U.S.A. dollars in 1939 were wholly inadequate for such growth and progress of Indian industry as we have in view.

(1) The equation is based on data for 24 countries. The following 6 countries have been gnored ; Iran, Egypt, S. Africa, Spain, Netherlands and Garmany.

$\Sigma(y) = 2962{\cdot}2$; $\Sigma(xy) = 153198{\cdot}45$; $\Sigma(x) = 757{\cdot}9$

$\Sigma(x^2) = 38328{\cdot}59$; $n = 24$

The following equations were solved as simultaneous equations

(1) $2962.2 = 24a + 757{\cdot}9b$

(2) $153198{\cdot}45 = 757{\cdot}9a + 38328{\cdot}59b$

$y = -7{\cdot}31 + 4{\cdot}14$

Growth of Currency and deposits during the War

The situation has fundamentally altered during the war. With the expansion of the note-issue deposits have increased rapidly, particularly since June, 1942. The growth of deposits (taking demand and time liabilities of scheduled banks together) between June, 1942, and Feb., 1944 is, shown in Fig. 9. The trend is measured by a straight line which has the equatioon,[2]

$$y = 513.55 + 31.76\ x$$

Growth of deposits, June, 1942-Feb., 1944.

Figures in crores.

	Actual deposits (y)	Calculated deposits (y_c)
June, 1942	358	354.75
August ,,	392	386.51
Oct. ,,	424	418.27
Dec. ,,	450	450.03
Feb., 1943	478	481.79
April ,,	498	513.55
June ,,	541	545.31
August ,,	574	577.07
Oct. ,,	603	608.83
Dec. ,,	651	640.59
Feb., 1944	680	672.35

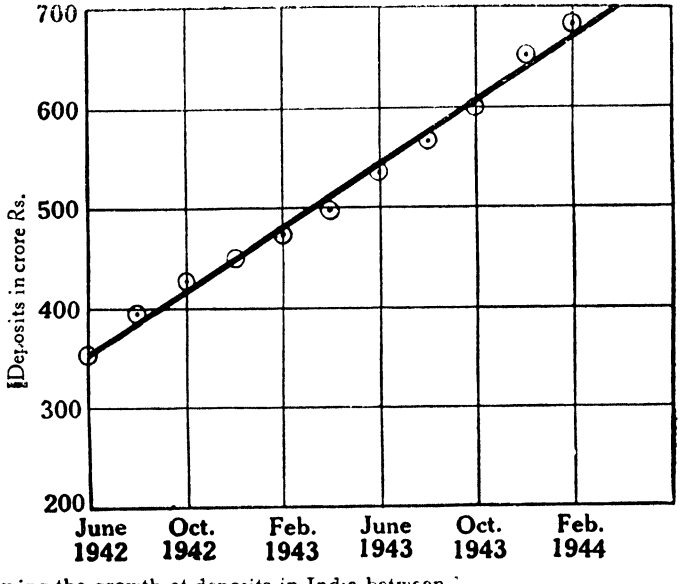

Fig. 9.

Showing the growth of deposits in India between

$\Sigma(y) = 5649$ $\Sigma(xy) = 3494$; $\Sigma(x^2) = 110$;

Origin April, 1943 ($x = 0$).

(1) 5649 = 11a. (2) 3494 = 110 b. $y = 513.55 +$

If this trend persisted for 20 years, then, in Feb., 1964, deposits would exceed 4,000 crores (513·55+190·56×20=4324·75).

It is obvious that the phenomenal growth of deposits is due to the phenomenal increase of note circulation. Will the note circulation continue to expand at about the present rate after the war, and if so, for how long?

Post-war Deflation

What will happen if deflation comes after the war? Not only will deposits cease to expand but they may begin to contract. Prices will fall and the fall may be intensified by heavy imports of manufactured goods. Wages and profits will fall and a general process of liquidation may set in.

"Such is the layman's gloomy picture of the things to come when the War is over." These are the words of the Chairman and General Manager of an important scheduled bank, spoken in April, 1944.[3]

The layman has cause to be pessimistic about the shape of things to come.

What happend after the last war?

As compared with the present war the expansion of the currency (rupees and notes) during the Great War was modest. Average annual absorption of the currency, taking notes, rupees and small coins into account, was Rs. 39,80 lakhs—say, a total of 200 crores for 5 years (1914-15 to 1918-19).[4] The absorption of the currency in 1919-20 was 42,43 lakhs. The Afghan War caused a heavy budget deficit in 1919-20 which was met by the issue of fiduciary currency against the Government's own I.O.U's. Prices rose to their highest point in 1920, after which, with currency contraction, they began to fall steadily. As this

(3) The name of the Bank is immaterial.

(4) *Currency Report*, 1940-41, p. 78.

is a point of some importance, we have shown below the annual absorption of currency between 1920-21 and 1930-31.

Annual absorption of the currency, in lakhs of rupees.

	Notes	Rupees	Small coin	Total
1920 –21	–590	–2568	–48	–3206
1921– 22	935	– 1046	–6	–117
1922– 23	387	–956	21	–548
1923– 24	796	762	32	1590
1924 – 25	–251	365	48	162
1925 - 26	116	–817	22	–679
1926 - 27	- 340	- 1976	10	- 2306
1927– 28	1022	– 375	39	686
1928– 29	357	- 303	43	97
1929–30	–1880	–2171	12	–4039
1930– 31	–1137	–2158	– 66	– 3361

During these eleven years the net absorption of rupees was —112,43 lakhs, of notes, —5,85 lakhs and of small coin +1,17 lakhs, a total net absorption of —117,11 lakhs, and average annual net absorption of — 10,65 lakhs.

It will be noted that for the contraction of circulation between 1920-21 and 1930-31, the changes in rupee circulation were of far greater importance than those in notes.

The estimates of circulation of rupees by Prof. Mahalanobis reliably show the movement of rupee circulation during the period.[5] His estimate of rupee circulation for 1920 is 364 crores and for 1931, 241 crores. The average active circulation of notes in the official year 1920-21 was about 139 crores, and in 1930-31 a little over 151 crores. The volume of currency thus fell from a total of 503 crores to 392 crores.

We are not concerned here with th exact amount of deflation. This cannot be precisely determined as the rupee circulation must

(5) *Ibid.* p. 52.

always be estimated. But about the fact of heavy deflation between 1920 and 1931 there is not the slightest room for doubt.

Deposits from 1914 *to* 1934.

Deposits rose from 87 crores in 1914 to 224 crores in 1920, an increase of more than $2\frac{1}{2}$ times. They fell steadily during 1920—23, and between 1924 and 1929 fluctuated between 200 and 205 crores. After rising to 212 crores in 1930, they fell to 198 crores in 1931 but rose to 228 crores in 1934. It was the practically stationary condition of deposits at the time when the Central Banking Enquiry Committee met which led the foreign experts to conclude that the country was not "abounding with untapped banking possiblities."[6]

The layman fears that history might repeat itself. Will it repeat itself? No, says the expert. He does not share the pessimism of the layman: "The volume of currency did not diminish after the War was over and in the year 1930-31, the worst year of the Great Depression, the total note circulation was higher (160.84 crores) than the maximum reached during the war period."[7]

(6) *Report of the Central Banking Enquiry Committee*, 1931, p. 626.

(7) The present writer wrote to the bank concerned (very unwisely, as he realises now) pointing out that 'the volume of currency,' consisting of notes and rupees, decreased from 503 crores in 1920 to 392 crores in 1931. The following interesting reply was received:—

"The references in his (Chairman's) speech are to note-circulation and not to the whole volume o currency.

"Estimates of circulation of rupee coins differ widely. The ungrouped data figures given on p. 3 of the Report referred to by you are widely different from the figures of estimates given on p. 52. There is, moreover, no official estimate given after 1921. Therefore figures pertaining to note-circulation alone were taken. In fact the point developed by the Chairman is about inflation through paper currency alone.

"*P. S.* You have compared the figures for 1920 with the figures for 1931 though both sets of figures are mentioned under the heading 1920-21 and 1930-31. This, though not correct, does not vitiate from your argument."

Because official estimates of rupee circulation are not available after 1921 we may conclude, on the basis of note circulation alone, that there was no deflation between 1920 and 1931! We may ignore Prof. Mahalanobis's estimates of rupee circulation as of no value! (The ungrouped data figures on p. 53 of the *Currency Report* relate to the period 1935—40). We may also ignore the figures of annual absorption of currency given on p. 79 of the same Report! Having done that we can easily dispel the gloom of the laymen, showing that 'the volume of currency,' consisting of notes alone, did not diminish after the Great War! The layman's ignorance of economic matters is profound, but some experts' ignorance does not seem to be less profound.

'The volume of currency' means only the note circulation! The expert is unaware that there was significant direct correlation between wholesale prices and currency (rupees and notes) before the war, but no correlation whatever between prices and note circulation.

We may conclude that unless 'created money' continues to operate, the growth of deposits will cease. An active policy of deflation must inevitably cause deposits to contract.

Incidentally it may be remarked that demobilisation is not such a serious problem in India as in industrial countries. Our Army has enormously grown, but it is a peasant army. A few rupees and a ticket home demobilises the army. The peasant soldier goes back to his village. The pressure of population on the soil is heavy, but it was so before the war—it is not a war problem.

Demobilised educated young men will be provided with jobs for 'war services,' replacing temporary men. There will be educated unemployment. But this is not a war problem either. There was a considerable amount of educated unemployment before the war. The old position will be restored. That is all.

Unless Government initiates a large-scale programme of industrialisation with 'created money' (road building and literacy campaigns are not enough), a deflationary process, with all that it implies, may be more confidently predicted after a year or two of the conclusion of hostilities than rising prices, wages and profits and expanding deposits.

The Trend of Deposits, 1896—1940.

A study of the trend of our Commercial bank deposits between 1896 and 1940 is of value in showing the progress of deposits in normal times. The best representation of the trend is by the Gompertz Curve.

The Trend of Indian Commercial Bank Deposits, 1896–1940.[8]

Year	X	Deposits Crores (Y)	Log Y	(Log a) b^x	Log Y_c = log k + (log a)b^x	Y_c
1896	0	28	1.44716	– 1.2720063	1.2346480	17.2
1897	1	26	1.41497	– 1.1980958	1.3085585	20.3
1898	2	27	1.43136	– 1.1284807	1.3781736	23.9
1899	3	30	1.47712	– 1.0629103	1.4437440	27.8
1900	4	31	1.49136	– 1.0011499	1.5055044	32.0
1901	5	35	1.54407	– .9429779	1.5636764	36.6
1902	6	42	1.62325	– .8881862	1.6184681	41.5
1903	7	45	1.65321	– .8365779	1.6700764	46.8
1904	8	50	1.69897	– .7879686	1.7186857	52.3
1905	9	52	1.71600	– .7241836	1.7644707	58.1
1906	10	57	1.75587	– .6990590	1.8075953	64.2
1907	11	61	1.78533	– .6584400	1.8482143	70.5
1908	12	64	1.80618	– .6201813	1.8864730	77.0
1909	13	73	1.86332	– .5841458	1.9225085	83.7
1910	14	83	1.91908	– .5502038	1.9564505	90.5
Σ_1 log Y			*24.62725		*24.6272474	
1911	15	88	1.94448	– .5182341	1.9884202	97.4
1912	16	93	1.96848	– .4881222	2.0185321	104.4
1913	17	90	1.95424	– .4597598	2.0468945	111.4
1914	18	87	1.93952	– .4330455	2.0736088	118.5
1915	19	90	1.95424	– .4078833	2.0987710	125.5
1916	20	107	2.02938	– .3841743	2.1224800	132.6
1917	21	152	2.18184	– .3618602	2.1447941	139.6
1918	22	153	2.18469	– .3408343	2.1658200	146.5
1919	23	202	2.30535	– .3210301	2.1856242	153.3
1920	24	224	2.35025	– .3023766	2.2042777	160.1
1921	25	218	2.33846	– .2848070	2.2218473	166.7
1922	26	192	2.28330	– .2682583	2.2383960	173.1
1923	27	187	2.27184	– .2526711	2.2539832	179.5
1924	28	200	2.30103	– .2379896	2.2686647	185.6
1925	29	203	2.30750	– .2241613	2.2824930	191.6
Σ_2 log Y			*32.31460		*32.3146068	
1926	30	205	2.31175	– .2111363	2.2955180	197.5
1927	31	202	2.30535	– .1988682	2.3077861	203.1
1928	32	205	2.31175	– .1873130	2.3193413	208.6
1929	33	201	2.30320	– .1764291	2.3302252	213.9
1930	34	212	2.32634	– .1661701	2.3404842	219.0
1931	35	198	2.29667	– .1565003	2.3501540	224.0
1932	36	218	2.33846	– .1474272	2.3592271	228.7
1933	37	221	2.34439	– .1388609	2.3677934	233.2
1934	38	228	2.35793	– .1307925	2.3758618	237.6
1935	39	245	2.38917	– .1231927	2.3834616	241.8
1936	40	258	2.41162	– .1160345	2.3006198	245.8
1937	41	263	2.41996	– .1092924	2.3973619	250.0
1938	42	256	2.40824	– .1029420	2.4037123	253.3
1939	43	272	2.43457	– .0969605	2.4096938	256.9
1940	44	307	2.48714	– .0913266	2.4153277	260.2
Σ_3 log Y			*35.44654		*35.4465682	

(8) The constants were obtained by the following formulae :—

$$b = \frac{\Sigma_3 \log y - \Sigma_2 \log y}{\Sigma_3 \log y - \Sigma_1 \log y}.$$

$$\text{Log } a = (\Sigma_3 \log y - \Sigma_1 \log y)\frac{b-1}{(b^n-1)^2}.$$

The equation of the Gompertz Curve is : $Y = Kab^x$ or

$$\log Y = \log K + (\log a)\, b^x$$

$b^x = b^{15} = .40741478$; $b = .9418949$

$\log a = -1.27006343.$ $\log K = 2.5066543.$

The equation therefore is :

$$\log Y = 2.5066543 - 1.27006343\ (.9418949)^x$$

with origin at 1896 and X units of one year, or

$$Y = 321.11\ (0.5345565)^{\cdot 9418949^x}$$

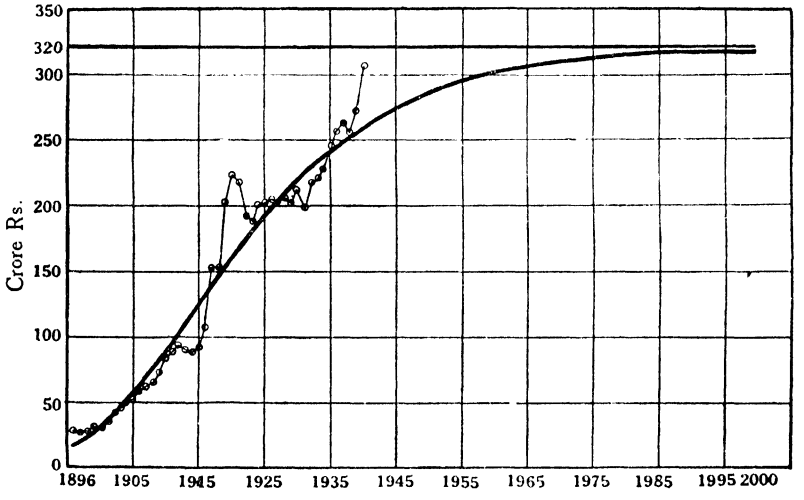

Fig. 10.

Showing the Gompertz curve fitted to commercial bank deposits in India from 1896 to 1940.

The upper asymptotic value is 321·11 crores (log k = 2·50665431). The curve in Fig. 10 shows deposits amounting to 319·3 crores in the year 2000 A. D.

The reader may be inclined to laugh. Why, he may exclaim, actual deposits in Feb., 1944 amounted to 680 crores !

Mathematical curves do not lie. If the conditions change, the curve becomes unreliable, but it is not the fault of the curve.

Why does the curve in Fig. 10 rise so slowly ? The answer is found in the practically stationary condition of deposits between 1920 and 1934, to which attention has been drawn before.

' Created money ' explains ' created ' deposits. The inflated deposits are not savings in the ordinary sense of the term.

The relation between deposits and note circulation between April, 1942, and Feb., 1944 is governed by the law[9] :

$$y = 41.6867 + .7208\ x$$

The relation between deposits and note circulation.
Figures in crores. (Excluding Burma)

	Note circulation (x)	Deposits (y)	Calculated deposits (y_c)
April, 1942 ..	402	325	331
June „ ..	439	358	358
August „	468	392	379
Oct. „ ..	509	424	408
Dec. „ ..	561	450	446
Feb., 1943 ..	610	478	481
April „ ..	667	498	522
June „ ..	720	541	561
August „ ..	754	574	585
Oct. „ ..	774	603	600
Dec. „ ..	822	651	634
Feb., 1944 ..	868	680	667

If x (note circulation) were to rise to 1,000 crores, as it may

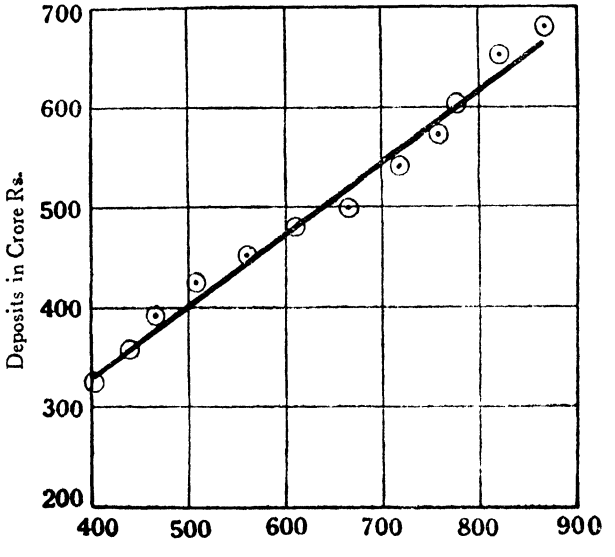

Fig. 11.

Showing correlation between commercial bank deposits and note circulation between April, 1942 and February, 1944.

(9) $\Sigma(x) = 7594$; $\Sigma(y) = 5974$; $\Sigma(xy) = 3977680$; $\Sigma(x_2) = 5079240$ $n = 12$.

The following two equations were solved as simultaneous equations :—

(1) 5974 = 12a + 7594b
(2) 3977680 = 7954a + 4805736b
y = 41·6867 + ·7208 x

if the war continues for a year or two, total deposits(y_c) would rise to 762 crores. It is equally obvious that when created money begins to vanish, some of the created deposits would vanish too.

A new cycle in the movement of deposits may be expected to commence after the war. The fluctuations of deposits would be on a higher level than before the war, but, under normal conditions, without 'created money,' the growth of deposits would be a slow process, if the trend of deposits over the whole period, 1896—1940, is of any significance whatever. Normally it is not possible for our deposits to grow by leaps and bounds as they have done since April, 1942. Under normal conditions, deposits, or the savings of the people, will never provide the colossal sums needed for industrialisation.

The full utilisation of taxable surpluses and 'all-out borrowing,' according to the estimate of the Finance Member of the Government of India, may make 1,000 crores available for the purposes of reconstruction (excluding direct private investment) during the first effective quinquennium.[10] Even if the amount were 1,500 crores it would not be adequate for industrialisation, if we really mean to develop the basic industries. Of the total available sum probably less than half could be utilised for capital construction of industry, for other demands (Agriculture, Medical, Public Health and Education) would also have to be met, and to get even 4,000 crores for capital investment in industry over a period of 15 years we shall have to assume a fantastic rise of national income and wealth in the second and

(10) Budget speech delivered in March, 1944.

the third quinquennium.[10a] Financing industrialisation with foreign capital is not to be recommended, as it creates political difficulties.

B. Unorthodox Methods. The Russian Experiment.

'Created money' figures in the Bombay Plan. The amount is modest, 3,400 crores. Actually it will be more if we rule out foreign borrowing and take a less optimistic view of our balance of trade in the planning period.[11] The balance of trade of our days of agricultural prosperity (1900—1930) is no reliable guide to the post-war balance of trade.

The authors of the Bombay Plan deserve credit for bold, constructive thinking. The Bombay Plan provides a refreshing contrast to *gur*, *charkha* and *khaddar* which have long masqueraded in our country in the guise of a 'constructive programme.'

The role of 'created money' in the Bombay Plan is important. Mr. G. D. Birla has attempted to show that India can save

(10a) Prof. C. N. Vakil of Bombay is an advocate of orthodox methods of finance. He would enlarge the objectives of the Bombay Plan by including in it 'certain social security arrangements' and by guaranteeing to each individual the minimum average standard as laid down in the Plan. But he would have none of 'created money.' He says (*Roy's Weekly*, April 2, 1944):

'Created money' could not take the place of capital. To ignore the dangers of inflation inherent in this suggestion by saying that economists are obsessed with the word 'inflation' is not good logic.

"If you have to create money to finance the Plan, it means that the necessary capital is not forthcoming to that extent from genuine savings. Under such conditions 'created money' will merely squeeze the people most unevenly and no amount of quibbling or side-tracking will remove the inevitable consequences of the process."

Prof. Vakil takes the view that industrialisation can be carried through without 'created money,' or with genuine savings alone. He says:—

"There would be no need for 'creating money' as suggested in the Plan. With increased production there would be some natural expansion of currency; the banks would be in possession of larger amounts of cash; with a larger cash basis they would be able to grant more credit and bank money would, therefore, be created if there was genuine demand for it".

Very probably Prof. Vakil's definition of industrialisation is the same as that given by Prof. K. T. Shah, otherwise he might have taken the trouble to explain how banks would be able to provide several thousand crores for industrialisation out of genuine savings of the people.

(11) See *A Plan of Economic Development for India* by the well known joint authors. The balance of trade is expected to provide 600 crores and foreign borrowing 700 crores over a period of 15 years (Chapter IV of the Memorandum).

Rs. 8,000 crores in 15 years. "In war we have saved so much and more."[12] He would call the total finance required by the plan, less the amount provided by sterling balances, foreign loans and the mobilisation of our hoarded wealth, Rs. 8,000 crores, 'savings.' The whole of this sum may as well be called 'created money.'

Money will be created by borrowing against *ad hoc* securities from the Reserve Bank.[13] This is precisely how money is being found for financing Allied war purchases in India. Whether paper money is issued against sterling or Indian securities is immaterial. The only difference is that at present paper money is backed by the credit of the British Government, while in the Bombay Plan 'created money' will be backed by the credit of the Government of India.

A striking parallel to such reconstruction is provided by Soviet planning. At the beginning of the present war Russia had no foreign debt.[14] A huge programme of armaments and reconstruction was carried through between 1928 and 1940 with internal resources (loans and taxes) and paper money.

What was at the back of the Rouble? Nothing but the credit of the Soviet Government and the faith of the people in their Government. Soviet paper money is not backed by gold. The charter of the State Bank requires a 25 per cent. firm cover for the currency circulation, but it is stated that in 1932 the State Bank ceased to pay heed to this requirement.[15] Even without any gold cover Soviet currency, it was claimed by Stalin, was the most stable currency in the world. Why? Because it was backed by goods held by the Soviet Government and the capital enterpises of the country. Soviet paper money was inconvertible, and it could not be converted by selling Soviet enterprises, *e.g.*, railways, docks, power stations, armament works to foreign powers.

(12) *The Plan Explained* by G. D. Birla. Speech delivered at the annual meeting of the Federation of Indian Chambers of Commerce and Industry on March 4, 1944, p. 5.

(13) The Memorandum on the Bombay Plan, p. 47.

(14) *U.S.S.R. Speaks for itself.* Vol. I, Industry (Lawrence & Wishart, 1941) p..20.

(15) *Soviet Labour and Industry* by L. E. Hubbard (Macmillan, 1942). p. 245 n.

In emphasizing the stability of Soviet currency Stalin is reported to have once 'profoundly' observed: "Is it not a fact that with this currency we built Magnitostroi, Dnieprostroi, the Stalingrad and Kharkov tracter works, the Gorki and Moscow automobile works, hundreds of thousands of collective farms and thousands of State farms?"[16]

What created the capital enterprises of Russia was not paper money but the labour, raw material and other resources which paper money set in motion. From the point of view of the average citizen paper money is not only a medium of exchange but a store of value. From the point of view of the State it is a unit of account and a means for setting the productive forces of a country in motion. It is not capital in itself, but it has a capital building effect.

Between 1928 and 1936 the total currency circulation and Russia's reserves of gold and foreign exchange varied as shown below:[17]

	Figures in Millions		
	1928	1930	1936
Bank notes	1821	2100	8020
State notes		1978	2801
Coins	–	277	435
Total	2028	4355	11256
Gold	179	484	1906*
Exchange in gold roubles	97	56	156*
Total	276	540	2062*

*A new gold parity was adopted in 1936.

Between 1928 and 1936 the currency circulation increased 5 times. The pace, it may be surmised, quickened after 1936, for the Soviet Government withheld these statistics from the world. No information about changes in prices or cost of living is available either. The suppression by the Soviet Government of monetary statistics and of index numbers of prices and

(16) Quoted by Hubbard, Loc. cit., p. 244.

(17) *Statistical Year-Book of the League of Nations* for 1931-32 (pp. 261 and 264) and 1940-41 (pp. 200 end 204).

cost of living is much to be regretted from the scientific point of view, but it is easy to understand. There was war between communism and capitalism; 'the base of the world revolution' was being constructed. Information which might discredit the 'workers' paradise' must not be furnished to the capitalist world.[18]

There is no doubt at all that the Rouble depreciated heavily between 1928 and 1939. The cost of specified quantities of 15 food articles in 1927-28, just before the inauguration of the first Five Year Plan, is estimated at 145·45 roubles; it had risen to 1433·49 roubles in Moscow in 1939. The price of food as well as clothing rose more than wages during the period.

While there is no doubt about the heavy depreciation of the Rouble in the planning period, there is equally no doubt about the industrialisation of Russia. The rise of prices is only a measure of the sacrifices imposed by industrialisation on the Russian people. Planning also ended unemployment and illiteracy. These are great achievements.

Let us consider the effect of created money on prices in India when price control was largely ineffective, *e.g.*, between September, 1941 and September, 1943.

During these two years the note circulation increased from 260 crores to 760 crores and prices rose from 149 (July, 1914=100) to 349. The trend is satisfactorily measured by the equation: [19]

$$y=189{\cdot}33+0{\cdot}3419x+{\cdot}0007315x^2.$$

(18) According to Hubbard, up to the year 1930, the State Planning Commission (Gosplan) issued a monthly review containing useful information. But in 1930 it was decreed that statistics had to play 'a practical part in the war of communism against capitalism.' The result is that "no statistics of any sort are issued dealing with prices, currency, housing, cost of living and a number of other economic phenomena which are indispensable to a true evaluation of any economic system" (see L. E. Hubbard, *Soviet Trade and Distribution* Macmillan, 1938, p. 368).

(19) $\Sigma(y) = 2014$, $\Sigma(xy) = 11220775$; $\Sigma(x^2 y) = 680091969$
$\Sigma(x) = 4549$; $\Sigma(x^2) = 2549879$; $\Sigma(x^3) = 1546510668$
$\Sigma(x^4) = 992203109651$

The following equations were solved as simultaneous equations :—

(1) $2014 = 9a + 4549b + 2549879c$
(2) $1120775 = 4549a + 2549879b + 1546510663c$
(3) $680091969 = 2549879a + 1546510663b + 992203109651c$

Note circulation and prices

	Note circulation Crores	Wholesale prices (y)	Calculated prices (y_c)	Deviation of calculated from actual prices
Sept., 1941 ..	266	149	150.14	+1.14
Dec. ,, ..	304	154	152.99	- 1.01
March, 1942 ..	375	153	163.99	+10.99
June ,, ..	439	182	180.22	- 1.78
Sept. ,, ..	488	198	196.68	- 1.32
Dec. ,, ..	561	238	227.74	-10.26
March, 1943 ..	636	272	267.77	- 4.23
June ,, ..	720	319	322.37	+3.37
Sept. ,, ..	760	349	352.00	+3.00
				+18.50
				-18.60

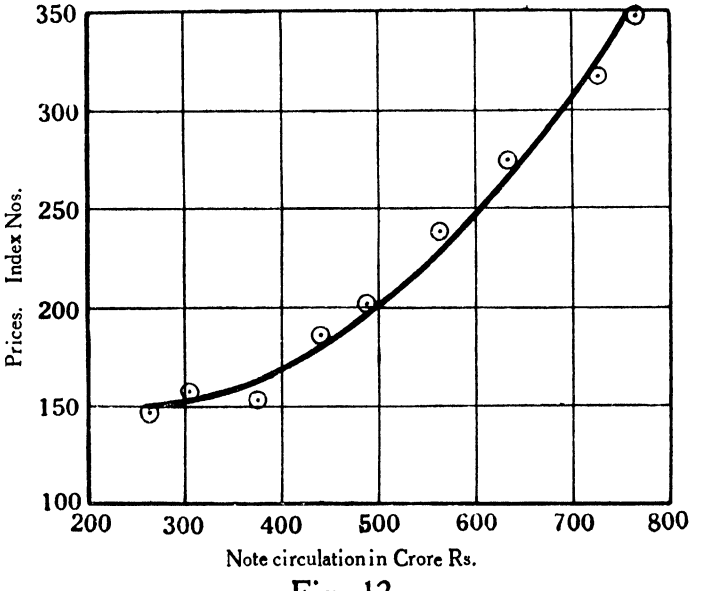

Fig. 12.

Showing correlation between wholesale prices and note circulation from September, 1941, to September, 1943.

If the relation between note circulation and prices were to be governed by such a law, an increase of note circulation to 1,000 crores would raise the price index to 579, while if note

circulation actually rose to 4,000 crores, then whatever cost Rs. 100 in July, 1914 would then cost Rs. 10,526—more than a hundredfold increase in prices. We are assuming absence of effective price control, as was the case between September, 1941 and September, 1943.

Now about a tenfold rise in the price of rice caused about a million deaths by starvation in Bengal. A hundredfold rise in general prices might account for about half the population of India!

'Created money' is regarded with suspicion and mistrust not only by the general public but by leading Indian economists. 'Created money' in the Bombay Plan has provided an easy target for criticism.

And yet the idea behind the Bombay Plan is fundamentally sound. Given a 'closed economy' and rigorous control by the Central Government of all aspects of economic life, money created to finance productive enterprises need not cause any inflationary rise of prices. The financing of unproductive war expenditure and of peace-time reconstruction are two totally different things.

But Russia's was a 'closed economy' too. Why did prices rise in Russia and so heavily? Very probably the explanation is threefold:

(1) Inefficiency and waste.

(2) Heavy expenditure on armaments.

(3) Construction megalomania to impress the capitalist world.[20]

The Relation of Investment to National Income

The Great Depression aroused keen discussion among economists as to the best methods of dealing with unemployment and distress due to a slump. The result was a re-examination of the

(20) See Appendix B.

relation of investment to income and the rise of the conception of the Multiplier. The Multiplier has won a definite place for itself in the nomenclature of economics. There would be less objection to 'created money' in India if we were more familiar with recent developments of monetary theory; created money is not viewed with alarm by some of the leading world economists, *e.g.*, Lord Keynes.

We may consider one example showing the high degree of correlation between investment and income. We borrow the data for this example from Colin Clark.[21]

U.S.A. Figures in milliards of dollars.

	National income y	Investment x	Calculated national income y_c	Deviation of calculated from actual income
1921	58.3	11.0	57.6	− .7
1922	59.7	12.9	63.1	+3.4
1923	69.7	17.7	76.9	+7.2
1924	70.4	14.9	68.8	−1.6
1925	74.8	18.7	79.8	+5.0
1926	79.5	18.0	77.8	−1.7
1927	77.4	17.3	75.8	−1.6
1928	80.4	17.3	75.8	−4.6
1929	83.4	19.7	82.7	− .7
1930	72.9	14.0	66.2	−6.7
1931	56.0	9.9	54.5	−1.5
1932	39.6	5.2	40.9	+1.3
1933	39.3	5.3	41.2	+1.9
1934	47.8	6.8	45.5	−2.3
1935	53.0	10.4	55.9	+2.9

(21) *The Conditions of Economic Progress* (Macmillan 1940), p. 477.

Karl Pearson's coefficient of correlation between the two

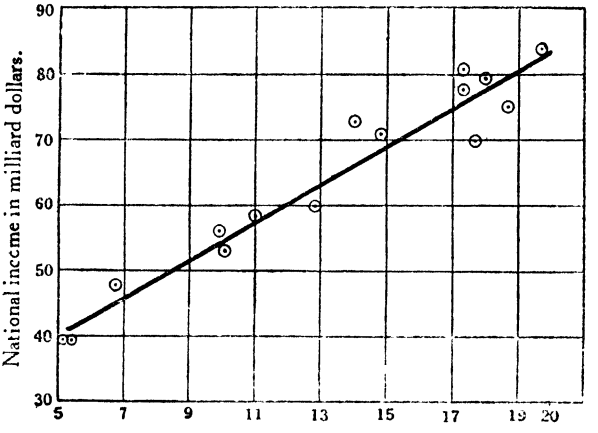

Fig. 13.

Showing correlation between national income and investment in U. S. A. from 1921 to 1935.

variables, national income (y) and investment (x) is +·9687.

$$r = +\cdot 9687$$
$$\sigma y = 14\cdot 23$$
$$\sigma x = 4\cdot 79$$
$$y = r_{\cdot} \frac{\sigma y}{\sigma x} x.$$
$$= \cdot 9687 \times \frac{14\cdot 23}{4\cdot 78} x.$$
$$= 2\cdot 8778\, x \text{ (origin at the point of averages).}^{21a}$$

Except in three cases, the difference between calculated and observed values is small.

The Investment Multiplier

There are two Multipliers, the Investment Multiplier and the Employment Multiplier. Here we are concerned with the Investment Multiplier, which measures the relation between a

(21a). To find y we use the formula which has been mentioned before.

$$Y_c = \bar{Y} = 2\cdot 8778\ (X - \bar{X}).$$
$$\bar{Y}_c = 64\cdot 15.$$
$$\bar{X} = 13\cdot 27$$

given increase in gross investment and the resulting increase in total national income. Keynes has called the Investment Multiplier k. When there is an increment of aggregate investment, income increases by an amount which is k times the increment of investment.[22]

The theory of the Investment Multiplier is simple. When there is increase in investment in capital goods industries of 1 unit, producers' income increases by 1 unit. Part of this increased income will be spent on consumers' goods, which will cause producers' income to rise further. Of the increased income again a part will be spent on consumers' goods, which will cause producers' income to rise still further. This goes on indefinitely.

Let us call the fraction of income spent on consumers' goods C. Then the amount saved is 1-C. Suppose the ratio of spending and saving is 1/2 and 1/2. The increase in producers' income is given by the series:

$$1+C+C^2+C^3+C^4+C^5+C^6+\ldots\ldots\text{or}$$

$$1+1/2+1/4+1/8+1/16+1/32+1/64+\ldots\ldots=2$$

Assuming that of a given increment in national income one-half is spent and one-half saved, it follows that the Multiplier

$$K=\frac{1}{1-C}=\frac{1}{1-\frac{1}{2}}=2$$

Suppose 1-C=·25, or saving is one-fourth of a given increment in income, C being equal to ·75. Then

$$K=\frac{1}{1-C}=\frac{1}{1-\cdot 75}=\frac{1}{\cdot 25}=4$$

(22) J. M. Keynes. *The General Theory of Employment, Interest and Money*. p. 115

This is the theory of augmenting national income through increase in investment. It is a sound theory, for it is confirmed by facts. K is not a mere abstraction but a reality. It has been caluclated for various countries at different periods of time.[23] We are particularly interested in Germany's K soon after reconstruction began. Between 1933 and 1934 German income rose by 6 milliard RM with an increase of gross investment of 3·1 milliards. K was thus about equal to 2.[24]

K will not have the same value from year to year: the relation between investment and income is not a simple one, for there are many complicating factors. But that increase in investment may be normally expected to increase national income is a doctrine too well established to be shaken or denied.

Now for the rise of income it is immaterial whether investment is derived from genuine savings or 'created money.' 'Created money' raised the level of German income during the reconstruction period (1933—1937). We have then no quarrel with created money in the Bombay Plan; on the contrary, no industrialisation is possible without 'created money'. If bankers or economists are looking forward to continually mounting savings or deposits in post-war India, which may provide the finance required for industrialisation, they are living in an expert's paradise and may not take long to be disillusioned.

Notes versus Bills

Created money may have two forms, notes and bills. Russia chose notes; Germany preferred bills. The Russian experiment is known to the authors of the Bombay Plan and the country generally. The German experiment has passed unnoticed in India. And yet it is an experiment which demands attention. Its meaning for us is that if we only reconstruct our banking

(23) See Cloin Clark, Loc cit., p. 482.

(24) *The Economic Recovery of Germany* by G. W. Guillebaud (Macmillan, 1939). p. 48.

system, we may industrialise India without running the risk of a rise of prices such as is feared, or such as actually took place in Russia.

The German Experiment

When reconstruction began in Germany, her economic situation was desperate. Between 1925 and 1932, while agricultural production had increased, agricultural income had fallen by one-third. Industrial unemployment had assumed gigantic proportions. And Germany had very little gold.

The entire economic life of Germany was reconstructed, unemployment was practically abolished and a huge programme of public works, not to speak of re-armament, was carried out by means of bills. The story is fascinating.

The control of production, prices and wages was an essential part of the German Four Year Plan adopted in 1933. To help peasants, whose debts amounted to 11·4 milliard RM in 1932, taxes were lowered and farm relief organised. But the most important agricultural measures were those which ended the free play of supply and demand in the determination of prices.

The Law of 15th July, 1933 made provision for the compulsory cartellisation of agriculture (*Einrichtung von Zwangskartellen*). An Empire Food Organisation (*Reichsnaehrstand*) was established and agricultural chambers of commerce and other societies were linked with it. All growers and traders concerned with agricultural products were organised into associations. In 1934 a new organisation concerned with foodgrains was created (*Hauptvereinigung der deutsche Getreidewirtschaft*) which controlled the activities of 19 regional associations set up in the country. These associations were unions of businesses dealing in food-grains from their production to sale in

form of bread. Speculation was suppressed with a strong hand. Dr. Hoevel, writing in 1935, says:[25]

"Prices are no longer determined by demand and supply but regulated by the State, and the whole German food economy is under the control of syndicates created by law (*Zwangssyndikaten*).

Guillebaud notes that as a result of these measures "there was a great increase in the purchasing power of the agricultural section of the community, the net receipts of farmers rising from 300 million RM in 1932-33 to 2 milliard RM in 1934—35."[26]

As in the United States, a huge public works programme was undertaken to reduce unemployment. "*Woher kommt das Geld*" (Where does the money come from?) asks Dr. Hoevel.[27]

There were three ordinary sources of finance:

1. New savings.
2. Taxes.
3. The capital market.

The utilisation of these sources, says Dr. Hoevel, would not have led to the desired goal. The only way out was the expansion of credit (*Kreditausweiterung der einzige Weg*).

The State issued Treasury Bills (*Reichsschatzwechsel*) for which a maximum limit was fixed. These bills never appeared in the market, but only served as cover. New enterprises were financed through 'employment bills' (*Arbeitbeschaffungswechsel*) put out by a special financing institution, *Deutsche Gesellschaft für Oeffentliche Arbeiten. A. G.* (Oeffa for short). These employment bills were discounted by the banks and re-discounted

(25) An admirably clear and well-documented account of the system set up in Germany in 1933 is given by Dr. Paul Hoevel in *Grundfragen deutscher Wirtschaftspolitik*, Berlin, 1935 (Julius Springer). See pp. 92—96.

(26) Guillebaud. Loc. cit., p. 59.

(27) Hoevel, Loc. cit., p. 60.

by the Reichsbank. The creation of credit instruments of an enormous amount, behind which there was no gold but only the credit of the State, was regarded with mistrust in wide circles. But Dr. Hoevel reminds the critics that the 'Miracle of the Rentenmark' was at bottom nothing else except the creation of credit by the authority of the State. The security behind the Rentenmark was pure fiction (*eine reine Fiktion*), and yet the Rentenmark operated without friction. The miracle happened once more. The new money created enterprises, set people to work and raised wages and incomes.

The total capital investment during three years (1933—35) amounted to 17·5 milliard RM (=£875,000,000=1200 crore Rs). Dr. Hoevel proceeds.

"In itself the creation of credit through the creation of new purchasing power does not add to the existing supply of income-yielding property, or the supply of indirect or direct goods. But the expansion of credit has a capital-building effect as it enables the existing goods to be better utilised. And just this building of new capital makes it possible for the new credit to liquidate itself. When it is stated that capital represents past labour (*vorgetane Arbeit*), the converse is also true; credit creation represents future labour (*nachgetane Arbeit*)."[28a]

Further, such creation of new purchasing power does not lead to the evils associated with inflation as increase in the supply of money is balanced by increase in the volume of production. Dr. Hoevel continues:

"John Law's celebrated maximum: 'C' est au Souverain à donne le crédit et non à le recevoir' leads to disaster, as credit expanison remains uncontrolled, and for that reason loses all realation to value creation. There is no risk of disaster when the amount of new purchasing power created is based upon and limited by the future production of goods."[28b]

(28a) Hoevel Loc. cit., p. 64.

(28b) *Ibid.* p. 65.

These measures achieved their purpose. Dr. Guillebaud says :

" By the autumn of 1936 the success of the First Four Year Plan was no longer in doubt. Unemployment had ceased to be a serious problem, and there was practically full employment in the building and engineering industries . . . . Recovery was no longer on paper ; it was for everybody to see ".[29]

Some statistics of the reconstruction period are given separately (pages 78-79). They show that from 45 milliard RM in 1932-33 national income rose to 68 milliard RM in 1937-38 ; the gross revenue of the Government during the same period rose from about 66 ½ milliard RM to 135 milliards ; the general index of production rose from 100 in 1932 to 220·6 in June 1937, and the number of the employed increased from 12·49 millions in 1932 to 18·50 millions in 1937. According to the *Statistical Year Book of the League of Nations* the number of the registered unemployed fell from 5·58 millions in 1932 to ·91 million in 1937 and to ·09 million in 1939.

This remarkable progress was achieved with increase in note circulation from 3,560 million RM in 1932 to 5,493 millions in 1937, an increase of 54·2 per cent. The increase is not remarkable considering that during the same period the note circulation increased in the United Kingdom by 35·3 per cent. and in the United States by 59 per cent.

German economy was re-constructed not through the agency of notes but bills.

Between 1932 and 1937 the total of bills held by the Reichsbank and discounts by commercial banks rose from 6,156 millions RM to 13,849 millions. Of special significance are figures of discounts by commercial banks. These rose from 3,349 million RM in 1932 to 7,717 million RM in 1937, an increase of 130·4 per cent. The amount of gold and foreign exchange held by the Reichsbank in 1937 was less than £4,000,000. The role of gold in Germany recovery was of no importance.

(29) Guillebaud, Loc. cit., p. 101.

German Reconstruction Statistics. Figures in million RM

End of	Reichsbank Bills	Commercial banks Discounts	Total, bills and discounts	Note circulation	Reichsbank. Gold & foreign exchange
1932	2807	2349	6156	3560	920
1933	3226	4099	7325	3645	395
1934	4076	5396	9472	3901	84
1935	4551	5855	10406	4285	87
1936	5510	7001	12511	4980	72
-1937	6132	7717	13849	5493	77

Commercial banks

	Investments	Creditors' deposits	Debtors' advances	Investments as % of deposits	Discounts as % of deposits
1932	1485	14 694	9005	10·11	22·79
1933	1545	14 787	8670	10·45	27·72
1934	2453	16 009	8193	15·32	33·71
1935	2905	14 920	7015	19·47	39·24
1936	3227	15 881	6725	20·32	44·08
1937	3406	16 592	5971	20·53	46·51

Index Numbers. 1932 = 100

Note Circulation

	Germany	U. K.	U. S. A.	Discounts German Commercial banks	Production General index	Actual No. of employed workers.
1929	141·7	98·9	71·8	146·9	187·8	17·86
1932	100·0	100·0	100·0	100·0	100·0	12·49
1933	102·2	103·2	110·5	122·2	113·8	13·07
1934	109·5	105·2	119·4	161·2	149·9	15·10
1935	120·2	111·7	135·2	174·8	176·2	15·97
1936	139·7	124·3	156·3	209·2	*209·3	17·67
1937	154·2	135·3	159·0	230·4	†220 6	‡18·50

*December. †June. ‡First quarter.

German Reconstruction Statistic. Figures in million RM
Reich Tax Revenue. Million RM

Year to March, 31	Cross	*Net	National income	Ratio of gross revenue to national income
1929–30	9172	5879	76 000	12.1
1932–33	6647	4925	45 000	14.8
1933 - 34	6846	4956	47 000	14.6
1934–35	8223	5728	53 000	15.5
1935–36	9654	7064	57 000	16.9
1936–37	11492	8881	62 000	18.5
1937—38	†13500	†10900	68 000	19.9

Prices, Wages and Cost of Living

The following statistics are taken from the *Statistical Year Book of the League of Nations*, 1940-41[30]

Index Numbers. 1929 = 100

	Wholesale Prices			Cost of Living			Weekly wages
	Germany	U.S.A.	U. K.	Germany	U.S.A.	U. K.	Germany
1932	70.3	68.0	74.9	78 3	79.7	87.8	67
1933	68.0	69.2	75.0	76.6	75.4	85.4	68
1934	71.7	78.6	77.1	78.6	78.1	86.0	73
1935	74.2	83.9	77.9	80.0	80.1	87.2	75
1936	75.9	84.8	82.7	80.8	80.9	89.6	78
1937	77.2	90.6	95.2	81.2	83.8	93.9	81
1938	77.1	82.5	88.8	81.6	82.3	95.1	85
1939	77.7	80.9	90.0	82.0	81.1	96.3	88

As is apparent from the figures given above, the growth of national income and Government revenue, the remarkable

*After deducting the Reich's contribution to Provinces.
†Estimated.
((**Source**: *J.R.S.S.* Vol. 102 (1939). Appendix to Norman Crump's paper, *The Economics of the Third Reich*).

(30) Table 100.

increase of production and the abolition of unemployment were not accompanied by the slightest inflationary rise of prices, or other evils associated with inflation. A rise of 7 points in the index number of wholesale prices between 1932 and 1937 in Germany may be compared with a rise of about 13 points in U.S.A. and of 20 points in the United Kingdom. The rise in the cost of living was still less and real wages rose.

The Question of Inflation

Such are the facts of the German experiment. That it achieved its purpose is indisputable. There are two chief questions which have been debated in regard to the German system: First, Is it a permanent system? and second, Is there danger of Inflation in the financing of reconstruction through bills?

We may leave the first question undiscussed. The pre-financing of output was brought to an end in April, 1938. It was announced that as from 1st April, 1938, no new special bills would be issued, and that the finance of new investment must be met in future out of the tax revenue of the Government and long-term issues on the capital market. Our object is to secure full employment of our resources. If pre-financing through bills enables us to realise our aim in 10, 15 or 20 years, we may then return to normal methods of financing new investment. The question of practical importance is not whether pre-financing may be adopted as a permanent system but whether, as a temporary expedient, it will fulfil its object.

Guillebaud refers to the dangers of inflation in several places in *The Economic Recovery of Germany*[31]. The book was reviewed by a Danish Professor in the pages of the *Weltwirtschaftliches Archiv* for July, 1939, the last number received in India before the outbreak of the war. The whole review deserves to

(31) Guillebaud, Loc. cit. pp. 81; 127 *et seq.*

be read and re-read with attention. Briefly, Dr. Pedersen objects to the smuggling of the rules of one game into the playing of a different game altogether.[32]

Inflation in India during the war has been widely discussed both in academic and business circles, the academic opinion being that the rise of prices was due to the increase of note circulation. The rise of prices followed the expansion of the note issue --*post hoc ergo propter hoc.*

But when a rise of prices is thus explained, have we really explained anything? On the contrary, we have mistaken a symptom for the disease itself.

During the first three years after the annexation of the Punjab the harvests, on the whole, were remarkably favourable. Peace and security, seasonable rainfall, and the return of disbanded soldiers to their normal ocoupation, "all contributed to cause so great an increase of produce as to reduce prices to an unprecedented extent."[33] Production had exceeded consumption.

An explanation of this crisis due to over-production, in monetary terms would be the following: "An extraordinary scarcity of the means of payment suddenly revealed itself during the first three years after annexation, so that the prices of agricultural produce fell heavily." Does that make sense?

In a natural famine there is an actual food shortage and prices rise sharply. Would it be rational to explain famine prices in terms of an extraordinary and sudden abundance of means of payment?

And yet that is how the artificial famine conditions in Bengal have been viewed by some leading Indian economists.

(32) *Weltwirtschaftliches Archiv* (published by the University of Kiel), July, 1939, p. 5.*

(33) *First Administration Report of the Punjab for* 1849-50 *and* 1850-51.

The rise of prices during the war has been mis-interpreted.[34] It is not realised that when supplies of food and other materials are diverted to war purposes, the resulting scarcity must raise prices. It is immaterial how this diversion is brought about. The Government of India paid for their purchases. But if they had simply commandeered stocks, prices would still have risen, without any inflation whatsoever, to equate demand and supply.

In a regime of uncontrolled prices and production, 'created money' raises prices by increasing the demand for factors of production. It is immaterial whether created money is in the form of notes or credit money created by banks. Suppose the rate of interest is low, which encourages producers to borrow more and more. Competition among them in securing the requisite supplies of labour and raw materials would force up wages and prices. The recognised symptoms of 'inflation' will manifest themselves.

But this is not possible if wages, production and prices are all under Government control. The question of inflation under State-controlled capitalism is irrelevent because labour and raw materials are rationed at fixed prices; wages are kept at a constant level; and profits and investment are directly and effectively controlled. As Prof. Pedersen says:

"The problem is not one of credit policy; it is one of diverting resources from the private sector to the public."[35]

When State control is effective, there is no danger of inflation even under full employment. So long as all the resources of

(34) See the Manifesto issued by 20 Indian economists in 1943. They talk of 'the inflationary spiral' and of 'a deficit-induced fiat money inflation.' But there is not a single reference to 'scarcity caused by the diversion of resources to war purposes. The 'gap' was to be closed by increased borrowing and taxation. 'Vagrant purchasing power' was to be tied up. The most successful borrowing programme and the heaviest possible taxation will not bring down the prices of necessaries, if famine conditions have been created by diversion of resources to war purposes.

(35) *Weltwirtschaftliches Archiv* for July, 1939, p. 6*.

the country have not been fully employed, the danger of inflation is still more illusory. In India full employment may not be secured even after 20 years of planning.

It should never be forgotten that 'created money' under planning assumes a 'closed economy,' with the most rigorous control of all aspects of economic life, production, consumption, exchange and distribution. That is why in smelling inflation in such a system we are smuggling the rules of the *laissez fair* game into the playing of an altogether different game, socialism.[36]

Productive and Unproductive Expenditure

In connection with the present discussion it may be incidentally remarked that while the fundamental idea of the Bombay Plan —that of raising national income by the use of 'created money' —is sound, the method of approach is wrong. In chapter II of the Memorandum on the Plan the joint authors discuss the requirements of a minimum standard of living. The capital requirements of the Plan include 490 crores for education, 450 crores to insure a minimum standard of health, 2,200 crores for housing and 200 crores for miscellaneous purposes. These items have a propaganda value, and it is far from the present writer to suggest that planning should disregard the requirements of a minimum standard of living. But 'created money' is not meant to finance expenditure which is not directly productive. Its primary object is to set the productive forces of a country in motion and thereby to increase national income. Money for improving standards of public health or housing or literacy must come from other sources. The pre-financing that we have in view relates only to those industries whose

(36) Norman Crump thus gives his impression of the German economic and financial system as he saw it at the end of 1937:

"In effect, it is a practical application of Socialism, consisting of large-scale planning and execution under the guidance, leadership and control of the Central authority" (J.R.S.S. 1939 Part II, p. 187.) Communists would call Norman Crump a British Nazi!

products will sooner or later move into consumption—or to the productive employment of resources. The use of 'created money' for other purposes must widen the gap between the volume of created purchasing power and the volume of consumable commodities and make it enormously difficult to control prices. It is desirable to abolish illiteracy; it is also desirable to raise the cultural level of the masses by teaching them to appreciate classical music, painting and other fine arts. Expenditure incurred for such purposes is productive in the long run but not immediately.

When 'created money' has brought the productive forces of the country into full operation, national income must rise. We do not know how long the process may take; we cannot predict the percentage increase of national income, and much less the percentage changes in the composition of national income.

Reconstruction of Banking

The reconstruction of our banking system which we proceed to discuss is not concerned with guaranteeing to every one a certain number of calories in the form of daily diet, nor with sanitation, water supply, village dispensaries or maternity hospitals: nor even with primary education and adult literacy. The banking system is to be reconstructed solely with the object of financing enterprises whose products will, without unreasonable delay, move into consumption.

Great changes must be pre-supposed in the banking system even for the 'growth and progress of industry' in the ordinary sense, *e.g.*, a vast extension of banking facilities, strengthening of banks through amalgamation, and setting up of industrial banks.

If we follow the American precedent and introduce

compulsory insurance of deposits up to a given maximum,[36a] public confidence in banks will increase. Public confidence will be further strengthened by bank amalgamations. Banking legislation of 1927 in Japan, as we have seen (chapter II) caused the disappearance of 500 banks through amalgamations. Similar legislation in India will reduce the number of banks but encourage the development of branch banking. This development may be assisted by State subsidies.

Fewer but large and powerful banks with numerous branches, and insured deposits, would popularise modern banking.

But in the place of provincial industrial corporations and an all-India industrial corporation, recommended by the Central Banking Enquiry Committee, we want institutions of the type of the German Oeffa, which was mentioned earlier in this chapter.

We assume that industrialisation will be carried out chiefly by means of mixed concerns. They have their defects[37] but

(36a) The deposits of any one depositor in any one bank are insured only up to 5,000 dollars. So far as small depositors are concerned, they are almost fully insured against loss, but taking the total deposits of the insured commercial banks, insurance covers about 43 per cent.

Deposits are insured through the Federal Deposit Insurance Corporation. Insured banks pay to the Corporation each year a sum equal to one-twelfth of 1 per cent. of their total deposits. The Congress has also helped the Corporation with funds.

It is argued by Homer Jones (*The Economic Journal* for Dec., 1938, p. 700) that if all deposits were protected, instead of 43 per cent. as at present, the cost. 'would probably be inreased very little.'

Insurance of deposits in India would give a powerful stimulus to the development of joint-stock banking by making it clear to the public that the full weight and credit of the Governmant was behind the banks. Probably the insurance of deposits of any one depositor in any one bank up to Rs. 5,000 would protect all except the biggest depositors.

(37) The head of the French Government before the war (1936—1938), Léon Blum, a declared Marxist, thus referred to mixed concerns in the course of his trial by the Supreme Court of Riom:

"I am not a believer in mixed concerns; I regard them as spurious schemes entailing a great deal of responsibility for the State without giving it real power in their management" (*Le'on Blum Before his Judges*, Labour Book Service edition, 1943, pp. 106-07).

Mixed corporations have a definite place in post-war planning in the United States. The report issued by the National Resources Planning Board, Washington (reprinted by H.M. Stationery Office, London, 1943) says; "In the post-war period, the mixed corporation might be an effective form of organisation for certain plants in those industries of crucial importance in which Government has made great war-time investments" (p. 39).

in the conditions of India enterprises entirely managed by the State are not to be recommended. Our bureaucracy is not an ideal one, and the inaguration of planning will bring no sudden or complete transformation in this respect. Stern measures had to be adopted in Russia to eradicate corruption and inefficiency.[38] Similar measures in India would lead to the 'liquidation' of whole departments. Inefficiency, corruption, nepotism, communalism and 'Jatism' are incompatible with State capitalism. Mixed concerns will be exposed to the same danger but, it may be supposed, in a lesser degree than State enterprises.

Pre-financing through bills is a simple operation. A mixed concern places an order with a contractor for buildings, machinery or materials. The contractor, as the work proceeds, draws bills on special financing institutions, created for accepting such bills. A bill having been drawn and accepted and endorsed, may now be discounted by any commercial bank. The acceptance of the bill by a State institution makes the bill a safe investment for the commercial bank discounting it. When the commercial bank itself needs cash, it gets the bill re-discounted by the Central bank.

Will these bills be self-liquidating? Yes, if they are used to finance productive enterprises. They will have to be

(38) In *One World* Mr. Wilkie is conversing with a factory superintendent:

"'Well', I said, 'what happens to you if you don't make good in this job?'

"And he said with a grim smile, 'I'll be liquidated.' I knew that might mean anything from demotion to death itself" (p. 49 Cassel, Indian edition, 1944).

Again, Mr. Wilkie says:

"I remembered an item that Joe Barnes had read to me from *Pravda*, about the fate of the manager of a collective farm who had just been sentenced to twenty years' rigorous imprisonment because one hundred cows had died on his farm. He had failed to liquidate the causes, so he himself had been liquidated, and the Government wanted other farm managers to know" (*Ibid.* pp. 68-69).

It is not known whether any one has been 'liquidated' in India on account of about a million deaths by starvation in Bengal. Cases are known of high corrupt officials who have been shielded rather than 'liquidated' by Government, both at the Centre and in the Provinces.

renewed on maturity as a matter of course until the enterprise concerned is able to repay the loan.

Suppose the bills discounted by the commercial banks are never repaid. Then the Central bank creates money equal to the discounts by commercial banks. Taking the worst possible view, pre-financing by means of bills is no worse than industrialisation through 'created money' of the Bombay Plan ; at its best it is an infinitely superior method.

The German experiment shows that the note issue is a fraction of discounts (including bills held by the central bank).

The relation between note circulation and bills in Germany

Year	Note circulation Million RM (y)	Total bills Million RM (x)	Calculated note circulation Million RM (y_c)	Deviation of calculated from observed note circulation
1932	3560	6156	3340	− 220
1933	3645	7325	3639	− 6
1934	3901	9472	4188	+287
1935	4285	10406	4427	+142
1936	4980	12511	4965	− 15
1937	5493	13849	5307	−186

The relation between x (bills) and y (notes) is :

$$y = \cdot 2557\ x \text{ (origin at the point of averages).}^{89}$$

$$(39)\quad y = r.\frac{\sigma_y}{\sigma_x}x$$

$$= \cdot 97\left(\frac{709{\cdot}58}{2692{\cdot}03}\right)x$$

$$= \cdot 2557\ x.$$

To find y, use ; $\overline{Y} = 4311$

$\overline{X}$ = 9052

While it may be thought that discounts by commercial banks will ultimately lead to the creation of an equal amount of cash by the Central bank, in fact it does not happen. Note circulation increases but only by a small fraction of the total amount of bill holdings.

There is a striking contrast between the German system and the system employed in India to finance purchases by the British and Allied Governments. In India deposits are a fraction of the note-issue. The relation between deposits (y) and note circulation (x) between Sept., 1942 and Feb., 1944 is governed by the equation :

$$y = \cdot 7186\ x \text{ (origin at the point of averages).}^{40}$$

Note circulation and deposits. India. Figures is crores.

1	2	3	4	5	6	7
Year	Note circulation	Deposits	Calculated deposits	d.	Calculated note circulation	d.
Sept., 1942	402	325	332	+ 7	397	− 5
June ,,	439	358	359	+ 1	442	+ 3
Augt ,,	468	392	379	− 13	488	+20
Oct. ,,	509	424	409	- 15	532	+23
Dec. ,,	561	450	446	- 4	568	+ 7
Feb., 1943	610	478	481	+ 3	606	- 4
April ,,	667	498	522	+24	633	-24
June ,,	720	541	561	+20	692	-28
Augt. ,,	754	574	585	+11	737	−17
Oct. ,,	774	603	600	− 3	776	+ 2
Dec. ,,	822	651	634	−17	842	+20
Feb., 1944	868	680	667	−13	881	+13
				+66		+88
				-66		−88

(40) $y = r. \frac{\sigma_y}{\sigma_x} x$

$= \cdot 99 \left(\frac{109 \cdot 59}{105 \cdot 97}\right) x$

$= \cdot 7186\ x$

To find y, use : $\overline{Y} = 498 ; \overline{X} = 633$

Our war-time deposits are a function of the note circulation. But let us take the opposite view of the relation between the two variables. What is the relation of x to y when deposits are taken as the independent variable (x) and notes as the dependent variable (y)?

$y = 1{\cdot}3638\ x$ (origin at the point of averages).[41]

The equation is satisfactory; the deviations of calculated from observed values are, on the whole, inconsiderable (see col. 7 of the table on p. 88).

Here are then two equations:

Germany: y (notes) $= {\cdot}2557\ x$ (bills)

India : y (notes) $= 1{\cdot}3638\ x$ (deposits).

Ours is a war-time equation; that for Germany relates to a period of peace but which was also a period of preparation for war. The equations illustrate two different methods of finance, through bills and notes. Which method minimizes the risk of inflation? There can be only one answer to the question.

The essence of financing reconstruction through bills is that production determines the amount of credit money and cash is created by the Central bank as need arises. Cash does not come first, as at present, but last.

Pre-financing through bills assumes two great changes in the working of the Indian banking system.

(41) $y = {\cdot}99\left(\frac{150{\cdot}97}{109{\cdot}57}\right)x$

$= 1{\cdot}3638\ x$

To find y, use $\bar{Y} = 633$ and $\bar{X} = 498$. What is Y_c for Feb., 1944?

$Y_c - \bar{Y} = 1{\cdot}3638\ (X - \bar{X})$

$Y_c - 633 = 1{\cdot}3638\ (680-498)$

$= 1{\cdot}3638 \times 182$

$Y_c = 633 + 248$

$= 881$, and so on.

First. At present advances and discounts of commercial banks are about 29 per cent. of their demand and time liabilities (scheduled banks' consolidated position, Feb., 1944), and this percentage was as low as 19.1 in Oct., 1942. It may be estimated that investments in Government securities amount to over 50 per cent. of total deposits. It is clear that if the percentage of investments were lower, the commercial banks would be able to do more for trade and industry. Why is the proportion of investments so high? The answer is that Government securities are preferred by banks for the sake of liquidity. But bills accepted by Government *ad hoc* institutions would be equally liquid, for the Central bank would be always prepared to discount them. It follows that pre-financing by bills, as is proposed here, would cause a substantial rise in the percentage of bills discounted to deposits. At present this percentage is negligible, a little over 1.[42] The percentage of advances and of investments may be expected to fall. The change should not be unwelcome to banks as it would mean greater profits for them.

Second. The Reserve Bank, as we have seen in the first chapter, at present largely serves an ornamental purpose. Under the system proposed it will be in daily and continuous contact with member banks. It will be re-discounting their bills constantly, keeping them well supplied with funds. It will also exercise its power of direct discount whenever need arises. We assume no restrictions on the power of the Central bank to create new money in the form of notes against Government securities.[43] And we assume no restrictions on the right of member banks to rediscount their bills with the Central bank. Under these

(42) In Feb., 1944, (average of Friday figures) bills discounted by scheduled banks amounted to 8.03 crores and the total of time and demand liabilities to about 680 crores.

(43) The proportion of gold and sterling securities to total notes issued in Feb., 1944 was as high as 91·8 per cent, but that of gold alone was as low as 5·1 per cent. The sterling cover might be a source of confidence to the foreign investor ; it is of little value for the actual convertibility of notes.

conditions trade and industry should get all the finance they require. The difficulty of financing long-term industry with short-term deposits is largely overcome, as the Central bank, through re-discounts, will provide the cash needed by member banks at any time.

Pre-financing through bills, under the stated conditions, permits the fullest possible utilisation of the resources of commercial banks for industrialisation.

The bill market in India is very little developed. The subject was discussed by the Central Banking Enquiry Committee, and the Committee made a number of recommendations to encourage the use of bills. Here we are not concerned with ordinary but special bills, created for a certain purpose, and backed by unimpeachable authority. Combined with unlimited rediscount facilities, pre-financing through such bills should present no insuperable difficulties.

Political and Economic Assumptions

Like the authors of the Bombay Plan, in the political sphere we assume a National Government exercising the most stringent control over provincial Governments in all essential matters. It deserves to be stated clearly that planning is inconsistent with Provincial Autonomy. There would have been fewer deaths by starvation in Bengal if food prices had been effectively controlled by the Central Government from the very beginning.[44]

Like the authors of the Bombay Plan we assume ' a temporary eclipse ' of individual liberty and freedom of enterprise.

Planning and ' freedom and democracy ' do not go together, and certainly not such democracy as India is blessed with. Who

44) It is only by bitter experience that we have realised the need for central Control in the matter of food prices. It is interesting to read in the Report of the Food-grains Policy Committee that public opinion will not tolerte a ' hands off ' attitude by the Centre in this matter. Certain provinces stoutly opposed Statutory price control and rationing to the last.

ever heard of a democracy based on community and caste, not to speak of mass ignorance and illiteracy?

We are not proposing the setting up of a wholly new system, but the improvement, extension and development of the system brought into being for winning the war. Winning the peace is not less important for India.

The Agricultural Revolution

Between 1900 and 1930 Indian agriculture was prosperous and the terms of trade were, on the whole, favourable to us. The Agricultural Revolution has altered the terms of trade to our disadvantage. Between 1931-32 and 1939-40 gold exports continued on an unprecedented scale. As is well known, the gold exported was largely 'distress gold' sold by peasants to meet Government and other dues.

While agricultural progress will continue in other countries, modernisation of Indian agriculture, which may bring down costs, is difficult. Indian agriculture, for the most part, is subsistence farming. The possibilities of large-scale farming on a co-operative basis need investigation, but a complete transformation of Indian agriculture through collectivisation is utterly unthinkable. For long years to come Indian agriculture cannot be so organised as to successfully meet overseas competition.

Referring to the effects of the Agricultural Revolution on German agriculture Dr. Hoevel says:

"The development of wholly new methods and technique in agriculture in overseas countries, which has led to colonisation of regions of fertile and virgin soil, and the cheapening of transport as the result of improvement in transport technique, have exposed German agriculture to a competition never before experienced in the same degree. If the law of comparative costs

were allowed free play, then the fate of German peasants would indeed be sealed."[45]

German agriculture is far more advanced in its methods than Indian agriculture can hope to be during the next fifty years. If German peasants could not meet overseas competition and had to be protected against the operation of the law of comparative costs, it is impossible to expect that our subsistence farming will successfully survive the operation of the same law.

To maintain prices at a remunerative level it will be necessary to protect Indian agriculture from the action of competitive world prices. The only means of doing so is by freeing India from the world market. Once we have broken loose from world economy, we can maintain agricultural prices at any level we choose. This level should be so determined as to enable the peasant to maintain a reasonable standard of living.

No industrialisation on a really big scale is possible unless steps are simultaneously taken to increase the purchasing power of the rural masses. The pace of our industrialisation will be determined by the success of measures taken to stabilise agricultural prices at a remunerative level.

Our post-war economy must be a 'closed economy.' There is no escape from this conclusion.

A 'closed economy' places India first and ignores world interests. It may be interesting to learn that 'Britain first' is

(45) Hoevel, Loc cit., p. 90. "Liesse man das Gesetz der Komparativen Kosten frei zur Anwendung kommen, so wäre tatsächlich das Schicksal des deutschen Bauern besiegelt".

the keynote of post-war thinking of the Federation of British industries.[46]

No 'detailed' plan

We have indicated above the broad lines on which our banking system will have to be re-constructed to assist the growth and progress of industry interpreted as industrialisation. The preparation of a 'detailed' plan on the same lines is impossible at present. It would involve an extensive study in the original of material relating to German recovery which is simply not available. When the war ends this material, and particularly the working of the German special financing institutions, may be studied by a small committee composed of Indian industrialists, bankers and economists, with the assistance of foreign experts. The investigations of the committee may take a year or more.

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(46) Referring to the probability of Britain emerging from the war as a debtor country to an unknown extent (in consequence of 'lease-lend'), and the danger to the stability of British currency and foreign exchange, the Report of the Federation of British Industries (Macmillan, 1942) says :

"In such circumstances the view is widely held in industrial circles in this country that we must at any rate for some considerable period, rely upon a policy of directive imports, on the assumption that we only import from overseas countries those essential commodities for which such overseas countries are prepared to accept payment by the only means which will be open to us—*i.e.*, by the export of our own products and such services as we can render. In effect, almost a system of barter or, at any rate, a system of bilateral trade, which will regulate our imports by our capacity to pay for them. This involves import and export controls, possibly by quota, preferential treatment of the imports of those countries which are prepared to assure us of the means of paying for them, and exchange control. Otherwise our economic stability crashes, owing to our importing beyond our ability to pay, which is the road to national bankruptcy" (*Reconstruction* A *Report by the Federation of British Industries*, p. 8.)

Appendix A.

Coefficients of correlation between deposits and wholesale price :—

$$r = \frac{\Sigma(dx.\ dy)}{n.\ \sigma x.\ \sigma y}$$

Country	Period	n	σx (deposits)	σy (prices)	$\Sigma(dx.dy)$	r
U.S.A.	1930—38	9	4·07	7·78	+248·75	+·87
India	1930—38	9	216·78	8·43	− 2176	− ·13
Germany	1930—36	7	1·84	7·17	+81·78	+·89
United Kingdom	1930—38	9	·186	6·82	+8·9816	+·79
Netherlands	1930—37	8	198·51	9·39	+13724·78	+·92
Japan	1930—38	9	·72	14·13	+89·34	+·98

Wholesale Prices.* 1929=100

Year	Germany	United Kingdom	Netherlands	Japan
1930 ..	90·8	87·5	89·9	82·4
1931 ..	80·8	76·8	76·5	69·6
1932 ..	70·3	74·9	64·8	73·3
1933 ..	68·0	75·0	63·1	81·6
1934 ..	71·7	77·1	63·2	80·8
1935 ..	74·2	77·9	61·7	84·4
1936 ..	75·9	82·7	64·0	89·0
1937 ..	..	95·2	76·4	108·4
1938 ..	..	88·8	..	114·3

* **Source** : *Statistical Year-Book of the League of Nations*, 1938-39.

Deposits*

Year	(1) Germany Reichsmarks 1000 million	(2) United Kingdom £ 1000 million	(3) Nethrlands Gulden Million	(4) Japan Yen, 1000 million
1930	19·79	2·31	1473	2·91
1931	14·78	2·14	1242	2·62
1932	14·06	2·41	1112	2·70
1933	14·04	2·38	996	2·90
1934	15·03	2·41	944	3·05
1935	15·55	2·54	776	3·09
1936	16·27	2·71	964	3·43
1937	..	2·74	1126	4·21
1938	..	2·65	..	4·89

2. *Other coefficients of correlation. United States.* 1930-38.

n = 9

		σx	σy	Σ(dx. dy)	r
	Demand liabilities (x) and				
1.	Prices of industrial shares (y)	4·07	15·61	+495·11	+·87
2.	Numbers in employment (y)	4·07	10·99	+336·91	+·84
3.	Industrial production, General (y)	4·07	14·74	+485·90	+·90
4.	Investment goods (y)	4·07	18·19	+601·20	+·90
5.	Consumption goods (y)	4·07	11·82	+369·00	+·85

INDIA. 1930–38. $n = 9$

		σx	σy	Σ (dx. dy)	r
1.	Deposits (x) and company profits (y)	216·78	193·89	+344652	+·91
2.	Deposits (x) and variable yield securities	216·78	19·25	+35025	+·93
3.	Prices (y) and currency (x)	8·43	32·51	1592	+·65

Source: *Statistical Year-Book of the League of Nations*, 1938-39.

(1) Deposits A : Current and deposit accounts, and due to domestic banks.

(2) Total deposits.

(3) Total deposits, excluding foreign correspondents.

(4) Ordinary and special current accounts.

3. U.S.A. Multiple correlation between wholesale prices (X_1) demand liabilities (X_2) and prices of industrial shares (X_3). 1930—38. Fitting a straight line to the X_1 series.

$$X_1 = a + b_{12\cdot3}\, X_2 + b\ 13\cdot2\, X_3$$

The following normal equations were used :

(1) $\Sigma(X_1) = Na + b_{12\cdot3}\, \Sigma(X_2) + b_{13\cdot2}\, \Sigma(X_3)$

(2) $\Sigma(X_1\ X_2) = a\ (X_2) + b_{12\cdot3}\, \Sigma(X_2^2) + b_{13\cdot2}\, \Sigma(X_2,\ X_3)$

(3) $\Sigma(X_1\ X_3) = a\ (X_3) + b_{12\cdot3}\, \Sigma(X_2,\ X_3) + b_{13\cdot2}\, \Sigma(X_3^2)$.

The following equations were solved as simultaneous equations :

(1) $724.9 = 9a + b_{12\cdot3}\ 194.4 + b_{13\cdot2}\ 733\cdot5$

(2) $15906.6 = 194\cdot4\ a + b_{12\cdot3}\ 4348\cdot3 + b_{13\cdot2}\ 10179\cdot0$

(3) $38024\cdot0 = 459\cdot3\ a + b_{12\cdot3}\ 10416\cdot0 + b_{13\cdot2}\ 25634\cdot3$

$$a = 52\cdot19$$

$$b_{12\cdot3} = \cdot4374$$

$$b_{13\ 2} = \cdot3706$$

$$X_1 = 52\cdot19 + .4374\ X_2 + .3706\ X_3$$

4. Fitting the sine curve to bills discounted in India and Burma by Scheduled Banks, Jan., 1940 to June, 1941.

$$y = a + b \sin \theta$$

The following normal equations were used :

(1) $\Sigma(y) = n\ a + b\ \Sigma(\sin \theta)$

(2) $\Sigma(y.\ \sin \theta) = a\ \Sigma(\sin \theta) + b\ \Sigma(\sin \theta^2)$.

$$n = 18$$

$$\Sigma(y) = 819$$

$$\Sigma(\sin \theta) = 3.7$$

$$\Sigma(y.\ \sin \theta) = 392.9$$

$$\Sigma(\sin \theta)^2 = 9$$

The following equations were solved as simultaneous equations :

(1) $819 = 18\ a + b\ 3.7$

(2) $392.9 = 3.7\ a + b\ 9$

$$a = 39.9$$

$$b = 27.2$$

$$y = 39.9 + 27.2 \sin \theta.$$

5. *Correlation between wholesale prices and demand liabilities of scheduled banks, March, 1942 to Sept., 1943.*

σy (prices) = 68.027

σx (demand liabilities) = 72·409

dy. dx = 48138·2

n = 10

$$r = \frac{48138{\cdot}2}{10 \times 68{\cdot}027 \times 72{\cdot}409} = {\cdot}9773$$

$$y = r.\frac{\sigma y}{\sigma x}x$$

$$= {\cdot}9773 \times \left(\frac{68{\cdot}027}{72{\cdot}409}\right)x$$

$$= ({\cdot}9773 \times .9395)\ x$$

$$= {\cdot}91817\ x$$

As the origin is at the point of averages, the following formula has been used for calculating y.

$$y_c - \overline{Y} = .91817\ (X - \overline{X}).$$

Mean of Y or $\overline{Y}$ = 245·7

Mean of X or $\overline{X}$ = 337·4

What is Y_c when x = 222 (March, 1942)?

$$Y_c - \overline{Y} = {\cdot}91817\ (X - \overline{X})$$

$$Y_c - 245{\cdot}7 = {\cdot}91817\ (222 - 337{\cdot}4)$$

$$= {\cdot}91817 \times (-115{\cdot}4)$$

$$Y_c = 245{\cdot}7 - 105{\cdot}96$$

$$= 139{\cdot}7, \text{ and so on.}$$

6. *Correlation between wholesale prices and note circulation March, 1942 to Sept., 1943.*

σy = 68.027 ; σx (note circulation) = 129.135 ; dy. dx = 87496·9

$$r = \frac{87496{\cdot}9}{10 \times 129{\cdot}135 \times 68{\cdot}027} = +\ {\cdot}99602$$

$$y = {\cdot}99602 \times \left(\frac{68{\cdot}027}{129{\cdot}135}\right)x$$

$$= {\cdot}5247\ x$$

The same formula has been used for calculating y as in (5) foregoing.

$$\overline{Y} = 245.7$$

$$X = 569.3$$

What is Y_c when $x = 760$ (Sept., 1943)?

$$Y_c - \overline{Y} = .5247\ (760 - 569.3)$$

$$Y_c - 245.7 = .5247 \times 190.7$$

$$Y_c = 245.7 + 100.06$$

$$= 345.8$$

Appendix B.

Meaning and Cost of Industrialisation.

We have interpreted 'the growth and progress of Indian industry' as industrialization. What is the meaning of industrialisation ?

Prof. K. T. Shah's definition may be considered. He says: "Industrialisation is taken, in this connection, to mean the establishment, encouragement or development of large and small scale industries... .." These industries are to be suitably organised, adequately financed and staffed, and appropriately located.[1]

The industries that Prof. Shah has in view are those producing consumers' goods, industries with which the people are already familiar, and in which indigenous capital has already sought investment. The examples given by him are : the textile industry of cotton, wool and silk, leather industry, including boots and shoes, saddlery, etc., processing industries of several raw materials produced from agriculture or forestry.[2]

If all provinces were to be industrialised in this sense India would have almost no heavy industry !

Sir M. Visvesvarya puts in the forepoint of his nation building programme: "Establishment of heavy industries, specially those relating to the manufacture of machinery and heavy chemicals."[3]

Stalin has said: "Not every development of industry constitutes industrialisation. The essential basis of industrialisation

(1) *Report on Industrialisation of the Punjab*, published by the Punjab Government (1941), p. 3.

(2) *Ibid.* pp. 128-29.

(3) *Nation-Building* by Sir M. Visvesvaraya (Bangalore, 1937), p. 65

consists• in the development of heavy industry (fuel, metal, etc.,) the building up of means of production and of our own engineering industry."[4]

The growth and progress of industry, which is limited to consumers' goods and ignores technical equipment or means of production, is not beneficial but harmful in the long run.

Our industrial output has considerably expanded since 1881, but the proportion of the population dependent on agriculture has risen, and of those dependent on industry has fallen. The industrialisation of India is proceeding side by side with the progressive ruralisation of India! This is the paradox of Indian 'industrialisation.'

The first occupational census of India was taken in 1881, but the return was that of workers only, and no attempt was made to determine the supporting power of each means of livelihood. According to census figures, preparation and supply of material substances supported 16·9% and agriculture 61·1% of the population in 1891, and 15·5% and 66·5% in 1901 respectively. But there were changes in classification in 1901, and the Census Commissioner did not think that the increase in the number of persons dependent upon agriculture indicated "a greater dependence on the land due to the abandonment of weaving and other indigenous industries."[5]

Between 1901 and 1911 industry further declined while the number of landlords and cultivators increased by 13 per cent. (a rate of growth double that of the general population). The Census Commissioner pointed out that while the increase was partly due to changes in the method of classification, it was not wholly unreal: "At the same time there seems to be no doubt that the number of persons who live by cultivation is increasing

(4) *The Soviet Comes of Age* (William Hodge, 1938). By 28 of the foremost citizens of the U.S.S.R., p. 44.

(5) *Census of India*, 1901, Vol. I, Part I, p. 207, para. 339.

at a relatively rapid rate. On the one hand, the rise in the price of food grains has made agriculture more profitable, while on the other hand, the profits of various artisan classes have been diminished, owing to the growing competition of machine-made goods, both locally manufactured and imported, with the result that these classes show a growing tendency to abandon their traditional occupations in favour of agriculture."[6]

Between 1911 and 1921 the rate of increase of agriculturists was 1·8 per cent., again faster than the general growth of population (1·2 per cent.), but the population supported by industry registered a decline from 35·32 millions to 33·17 millions. Industries 'substantially' decreased, in the words of the Census Commissioner. The proportion of the population supported by industry in 1921 was 10·49 as compared with 11·27 in 1911.

The return for 1931 is a return of workers alone. The following comparative figures are taken from the All-India Census report for 1931.[7]

	Actual workers. *Millions*		*Percentage variation* 1921—31.
	1931	1921	
III. Industry	15·35	15·71	— 2·3

The census figures show a decrease also in the number of cultivators (from 79·7 million in 1921 to 78·5 million workers in 1931). The decrease was only 'apparent' being due to changes in classification; in fact agriculturists increased. "It seems likely therefore," the Census Commissioner says, "that the increase of agriculturists is resulting in the extension of cultivation to areas which yield a low economic return."[8]

(6) *Census of India*, 1911, Vol. I, Part I, p. 413 para. 530.

(7) *Census of India*, 1931, Vol I, Part I, p. 313.

(8) *Ibid.* p. 289.

India adopted discriminating protection as her tariff policy in 1924, but free trade had virtually been abandoned several years before, and Indian manufacturing industries benefited by the change. And yet, in spite of the growth and progress of Indian industry, the pressure of population on the soil increased between 1921 and 1931 in every major province. The provincial census reports bear ample testimony to this fact. "A greater burden than ever is being thrown on agriculture as a source of livelihood," says the Bombay Census Superintendent.[9] Bombay is the home of our cotton mill industry. The Madras report says: "Over much of the rural tracts of the Presidency the land is supporting as many people as under the present conditions it can without an alteration in standards."[10] Madras, the United Provinces, Bihar and Orissa are provinces which, on balance, lose by migration. In the Punjab, as compared with the 14 per cent. increase in population, the number of cultivators (workers) increased by no less than 25·7 per cent. Referring to the 'very big increase in the already very numerous category of cultivators,' the Census Superintendent says: 'The other resources of the Province are obviously not keeping pace with the rate of increase in the population.'[11] In the Frontier Province agriculture is stated to have 'almost reached the limit of its expansion.'[12] Industries declined. The decline was not due to the general trade depression. 'Rather it is due to increased activity in trade, for imports of factory made articles from Hindustan and other parts of the world are destroying the markets which local products used to enjoy.'[13] There is no province or part of India where cottage industries are not being destroyed and cottage workers ruined by Indian and

(9) *Bombay Census Report*, 1931, p. 24.

(10) *Madras Census Report*, 1931, p. 46.

(11) *Punjab Census Report*, 1931, pp. 221-22.

(12) *N.W.F.P. Census Report*, 1931, p. 33.

(13) *Ibid.* p. 122.

European machine competition. The inevitable result is increase in the proportion of the population dependent on land.

Population increased rapidly between 1931 and 1941. There is no reason whatever to doubt that pressure of population on the soil today is heavier than in 1931.

It should be clear that the growth and progress of Indian industry under present conditions is not constructive but destructive.

Industrial development with imported machines creates unemployment where the machines are used and employment where the machines were made. Russian experience before planning was similar. We may be permitted to refer to this experience in some detail as there is a striking parallel between Tsarist Russia and India at the present time.

Tsarist Russia was an economically backward country, with agriculture as the main occupation of the people. Still it was industrially more advanced than India, for Russia occupied, in 1913, 15th place in the world in electric power production, 6th place in the output of coal, 5th place in pig iron and steel smelting and 7th place in copper production. The production of aluminium, nickel, rare metals, and synthetic nitrogen did not exist at all. High grade steels, ferro alloys and calcium carbide were almost all imported, and also machines, tools and other machinery.[14]

Industrialised Germany, Russia's next door neighbour, principally met Russian requirements in regard to machines and other goods. In the year 1913, of the total imports into Russia, German goods represented 52 per cent. The principal imports

(14) *U.S.S.R. Speaks for Itself*, Vol. I, Industry. p, 45.

from Germany into Russia in 1913 and from 1922 to 1925 are shown below:[15]

Figures in millions of 1913 *roubles.*

	1913	1922	1923	1924	1925
Machines, including agricultural machines	107.0	33.9	8.0	6.5	6.1
Metallic articles	99.2	15.3	11.3	10.4	1.5
Metals and Ores	30.3	1.6	2.5	1.8	2.2
Chemical and pharmaceutical products.	21.1	5.2	3.3	4.6	3.1
Dyes and colours	10.7	1.7	4.4	8.9	5.2
Paper	6.0	.6	.7	2.1	.9
Coal	35.8	.06	—	.1	—
Wool	24.1	.01	3.9	2.4	.8

Of all imports, those of machines were of the greatest value. Machines, metallic goods and metals and ores represented about half of the total value of imports in 1913. The decline of imports in subsequent years was not due to the progress of machine-making in Russia—that came later, but economic conditions in Germany. The treaty of Versailles impoverished Germany and she was no longer able to grant credit to Russia in the same measure as Sweden and the United Kingdom.

The leaders of the Soviet Union saw very clearly that industrialisation was essential both in the interest of national defence and to raise the level of general economic well being. How did they set about it?

They paid less attention to consumers' goods, but concentrated all effort on the building of heavy industry. V. I. Mezhlauk, Chairman of the State Planning Commission of the

(15) Developments in Russia were followed with the keenest interest in post-war Germany on account of the close commercial relations between the two countries and the distressing political and economic conditions in Germany. We have borrowed these statistics from an asticle in *Das Neue Russland* (2 *Jahrgang, Deppelheft* 9-10, p. 10.) The article is entitled "German exports to the Soviet Union"

U.S.S.R., reviewed the progress of machinery production in the course of a speech delivered at the seond session of the Central Executive Committee of the U.S.S.R. on January 11, 1936, "Machinery production, the principal key to the reconstruction of national economy," he said, "continues to exhibit the most rapid rates of increase."[16] The gross output of the machinery industry under the People's Commissariat of heavy industry was to total 16,600,000,000 roubles in 1936 as against 12,100,000,000 roubles in 1935. During the period of the First Five Year Plan Russia imported equipment to the value of approximately 2,000,000,000 gold roubles. During the second five year plan period equipment imports from abroad dropped 'to an insignificant figure.'[17]

(16) See *Soviet Union* 1936 (London, Lawrence and Wishart; printed in Moscow). The work, comprising speeches and addresses by Soviet leaders, is a valuable source book, p. 340.

(17) *Ibid.* P. 340.

A more recent account of Russian industrialisation is that given by N. Voznesensky, Chairman of the State Planning Committee in Vol. I of the Series 'U.S.S.R. Speaks for Itself'

M. Voznesensky says:

"The increase of production in the Soviet Union was accompanied by a reconstruction of industry, especially of the machine-building industry, for the purpose of producing the most advanced and up-to-date equipment needed by the national economy and for the defence of the country". (p. 10)

While during the whole of the first Five Year Plan a total of 1500 new industrial plants were put into operation, during the first three years of the third Five Year Plan 2900 new mills, factories, mines, power stations and other plants were created.

The place of the U.S.S.R. in world production is shown by the following figures (p. 21):—

	1913	1936
Gross industrial output ...	5th	2nd
Machine-building ...	4th	2nd
Agricultural machine-building ...	5th	1st
Tractors ...	...	2nd
Harvest combines ...	...	1st
Automobiles and trucks ...	...	6th
Electricity ...	15th	3rd
Steel ...	5th	3rd

Even allowing for propaganda Russian industrialisation is a reality. And industrialisation has saved Russia.

The industrialisation of Russia was not achieved without heavy sacrifices. Here are two common people conversing in Russia:—

Sergei a non-communist Jew liked the Bolsheviks as they did not persecute Jews, but "he had his reservations about the Bolsheviks after the Civil war was over.

"I agree with them in general. But not in everything. For instance, I think it would've been better not to industrialize the country so rapidly. The burden is too heavy for the people to bear."

"Alexandra put in emphatically: 'If we hadn't built up our industries, we'd have been crushed by some foreign power long ago. It's not a question of what is *desirable*. It's what is *necessary* that guides us." (*Comrades and Citizens* by Seema R. Allan, p. 244. Golancz publishers 1938).

Occupational Changes

The working population of a country may be divided into three large groups which, following Colin Clark, we may call Primary, Secondary and Tertiary. The Primary group includes workers engaged in hunting, fishing and agriculture; the Secondary, those engaged in mining and manufacture; and the Tertiary, also called 'Services,' the rest (chiefly, commerce, transport and Government and other services, including domestic service).[18]

Industrialisation is accompanied by great occupational changes. There is a marked fall in the proportion of Primary workers and, in most cases, a marked rise in that of Tertiary workers. The proportion of workers engaged in Secondary occupations also rises, but this is of less significance.

Colin Clark has described the historical flow of labour to Tertiary production in many countries, illustrating what he calls 'Petty's Law.' Sir William Petty, writing in 1691, noted that Merchandise was more profitable than Manufacture, and Manufacture more profitable than Husbandry. The 'Hollanders' were more prosperous than other nations, but not because of any 'Excess of their Understandings.' The situation of their country made them a great sea-faring nation. Petty says:

"The Husbandman of England earns about 4*s*. per week, but the Seamen have as good as 12*s*. in wages, victuals (and as it were housing) with other accommodations, so as a Seaman is in effect three husbandmen; wherefore there is little ploughing and sowing of corn in Holland and Zealand or breeding of young cattle."[19]

(18) *The Conditions of Economic progress* by Colin Clark (Macmillan 1940). See Chapter V and the table facing p. 178.

(19) *Political Arithmetic*, Fourth edition, London, 1755, p. 112.

Petty's Law, if indeed it may be so-called, finds confirmation in a table given by Colin Clark showing average real income per head and the percentages of Primary, Secondary and Tertiary workers in 31 countries. The most prosperous countries have also the highest proportion of Tertiary workers. These countries are: United States, Canada, New Zealand, Great Britain, Switzerland, Argentine, Australia and Holland. Their range of *per capita* real income is from 855 (Holland) to 1368 units (U.S.A.). The proportion of Tertiary workers ranges from 32·8 per cent. (Switzerland) to 49·6 per cent. for the United States and 49·7 per cent. for the United Kingdom. At the bottom of the scale we have poor countries with the great majority of their workers engaged in Primary production. India, with the lowest *per capita* income (110 units) but with 62·4 per cent. of primary and 23·2 per cent. of Tertiary workers, seems to be an exception to the rule. But the correct proportions for India are probably over 75 per cent. for Primary and about 12 per cent. for Tertiary occupations. Colin Clark has taken the occupational return of our 1931 census at its face value.

Petty's Law would suggest that the proportion of India's national income derived from 'Services' would rise as the result of industrialisation. It would be most remarkable if it fell, as the Bombay Plan anticipates.

The aim of our industrialisation should be to steadily reduce the proportion of primary workers. Between 1872 and 1935 this proportion fell from 72·3% to 25·4% in the United States; in Great Britain it fell from 22·7% to 6·4% between 1841 and 1931; in Germany from 39·1% to 20·4% between 1882 and 1933; and in France from 43% to 24·5% between 1866 and 1931. In Japan the percentage of Primary workers was as high as 84·8 in 1872. Fifteen years later, in 1887, it had fallen to 77·8; 10 years later, in 1897, to 71·8; and 15 years later, in 1912, to 61·5.

According to the figures of the International Labour Office, this percentage in 1920 was 53·5, and 10 years later, in 1930,50·3.[20]

Industrialisation which fails to divert labour from agriculture to manufacturing industries, and particularly to Tertiary occupations, is no industrialisation. Just because industrialisation is accompanied by great occupational changes, it is not possible to forecast, with any measure of confidence, the percentage changes in the composition of national income.

Cost of Industrialisation

Having learnt the meaning of industrialisation, let us consider its cost.

Industrialisation is a costly affair, much more costly than is suggested by the figure adopted for industries in the Bombay Plan, 4,480 crores.

The total capital investment in Russia during the period of the First and the Second Five Year Plan (1928—1936) amounted to 165·5 milliard roubles, of which 83·4 milliard roubles, or slightly more than half, were accounted for by capital construction of industry.[21]

Capital investments during the first three years of the Third Five Year Plan amounted to 108 milliard roubles and in 1940 to nearly 38 milliard roubles. We do not know the proportion absorbed by capital construction of industry, buf if it was half as before, the sum invested in industry alone, between 1928 and 1940, would amount to over 176 milliard roubles. We do nct know the exact purchasing power of the rouble, but at the official rate of £=13 roubles, or 2 roubles=a rupee, this sum is equal to 8,800 crores.

(20) Colin Clark, Loc. cit., Chapter V.

(21) *Results of the Second Five Year Plan and the Project of the Third Five Year Plan.* A valuable brochure issued in July, 1939 by the Birmingham Reserach Bureau on Russian Economic conditions (Russian Department of the University of Birmingham), p. 1.

Germany

In 1933 Germany already possessed a highly developed industrial system and was well supplied with technical equipment. But, owing to the crisis of 1931, the industrial machine had broken down and capital was needed for replacement. Gross investment amounted to 4·2 milliard RM in 1932; 5·1 milliard RM in 1933 and 8·2 milliard RM in 1934—a gross investment of 17·5 milliard RM in three years. This sum, at the rate of £ = 20 RM is equal to £ 875,000,000, or 1167 crore rupees. We are told that both in 1932 and 1933 net investment was negative, gross investment being less than the amount required for normal replacements.[22]

We may avoid disproportion in production, pay a little more attention to light industry, and remain unaffected by what M. Molotov calls megalomania in construction.[23] To impress the world with her achievements in construction, Russia planned power stations on a much bigger scale than was perhaps necessary.[24] But we have more leeway to make up, and our industrialisation must be adapted to the larger size of our population. Ignoring Education, Health and Housing, the three heads Industry, Agriculture and Communications might well absorb Rs. 10,000 crores over a period of 15 years.

The colossal sums required for industrialisation can never

(22) *The Economic Recovery of Germany* by C. W. Guillebaud (Macmillan, 1939), p. 48.

(23) Brochure cited in note (21) above, p. 7.

(24) Mr. Wendell Wilkie says in *One World* (Cassel, Indian edition, 1944), p. 51 :—

"I had been told in Kubishev of plans to dam a great bend in the Volga river for the production of electrical power; and on this trip we went over the part of the Volga concerned in the proposed development. I am not one to be easily surprised by vast governmental power developments, but when it became clear that this one development, if completed, would produce twice as much power as all the T. V.A., the Grand Coule, and the Bomeville developments combined, I began to realise that the Russians dream and plan on a scale to fit their vast forests and plains."

be provided by taxation, or the capital market, or the annual savings of the people. Prof. K. T. Shah indeed says :

"Capital in India is plentiful, if we only know where and how to seek it ; if we only devise appropriate means to attract and invest it safely and profitably. It today finds profit and security in being loaned even for unproductive purposes to the small, illiterate or improvident agriculturist. But it is rapidly realising that conditions are changing and that this investment is neither secure nor profitable."[25]

This view is based on Prof. Shah's definition of industrialisation. Probably there is no lack of capital in the country for the production of many classes of consumers' goods. But we must reject this conception of 'growth and progress of industry' as worse than useless.

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